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## Some Observations on Bovine Pyelo-Nephritis and its Treatment with Penicillin

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Pyelo-nephritis of cattle associated with *C. renale* infection is a well-known specific disease and in this area is the commonest cause of haematuria. Sixteen cases have been attended at the Field Station of the School, between May, 1942, and October, 1948, and of these, ten were first seen affected in the months November to May. Five of the latter were in the severe winter of 1946-47. Udall (1943) saw 34 cases at the Cornell clinic during the period 1915-32 and 90 per cent. of them occurred from December to May. Also in the U.S.A., Fox (1947) reported on four cases and Kiesel *et al.* (1947) described seven cases all of which were seen from November 1st to May 15th. From this apparent seasonal incidence of the affection the American workers have thought that cold weather might be a factor in initiating, or more probably, in aggravating the condition. On the other hand, it must not be overlooked that the disease often follows parturition and that it is extremely rare in heifers and males. Twelve of our cases and six of Kiesel's began within four months of calving. When it is remembered that in dairying districts there is a preponderance of autumn calvings, it will be seen that the apparent seasonal (winter) incidence of pyelo-nephritis may be a function of proximity to parturition rather than of cold weather.

Until recent years pyelo-nephritis was considered an incurable disease but since the introduction of penicillin there have been reports of its successful treatment. Thus Beck *et al.* (1945) reported three apparently complete recoveries out of six cases treated; Fox (1947) one out of four; and Kiesel *et al.* (1947) four out of seven, the remainder showing temporary improvement. Doses of penicillin ranged from one to one and a half million units daily until from seven to 15 million units had been given. Criteria of cure were freedom from haematuria together with absence of *C. renale* from the urine for periods which varied from four to 13 months. Apart from these, some cases regained health despite the reappearance of *C. renale* in the urine. The opinion gained from these experiences was that the treatment of early cases of the disease with large doses of penicillin was an economic proposition and that even if complete recovery did not ensue, the increased milk yield occasioned by the temporary improvement in general health was worth while.

At the Liverpool Field Station observations on the treatment of pyelo-nephritis with penicillin were commenced in October, 1946 and eleven cases have been attended.

### Discussion of Results Obtained

According to their response to penicillin therapy cases of pyelo-nephritis may be divided into three groups as follows:—

1. Those which make clinical recoveries of some permanency—in our cases of from three to 20 months—and in which subsequent parturition does not cause relapse. In them haematuria disappears during treatment and does not recur, although traces of albumen may be found and *C. renale* excretion may, but usually does not, persist.
2. Those which show temporary clinical improvement. In these the urine is either not, or only temporarily freed of the organism. The case continues to make good progress, however, until haematuria recurs when there is clinical relapse.
3. Those which are uninfluenced by penicillin. Our records show that the number of cattle which fell into these categories was five (420, 185P, 447, 447J, 680), three (ATIA, 98HH, 654) and three (461, 18L, 654) respectively.

Striking features of the investigation were the importance of haematuria as a clinical sign and the uncertain prognostic significance of the mere presence of *C. renale* in the urine. It was found that cows may remain healthy for many months despite intermittent or regular shedding of this organism, together with slight degrees of albuminuria. Should haematuria recur, however, the animal soon becomes unthrifty. Equally noteworthy was the rapidity with which haematuria disappeared in the cases which reacted favourably to penicillin. Urines, so grossly altered that they resembled blood, appeared normal within 36 hours of the commencement of treatment. Closely associated with this local change were positive signs of general improvement as shown by return of appetite and increased milk yield, for example, from 30 to 48 lb. per day, within four days of the commencement of treatment in Case 98 HH.

The remarkably short time taken for local and general evidence of improvement to occur following penicillin therapy brings one to a consideration of the mechanism of disease production and the process of recovery. In this connection, Morse (1948) has shown in cases of pyelo-nephritis that the serum non-protein nitrogen value is abnormally high and the urea content of the urine is lowered although the urine ammonia value is raised. It is recognised that these urinary findings may be due to the activity of *C. renale*, which, by producing urease, causes a breakdown of urinary urea with production of ammonia. Related to this is the common observation that the *p*H values of pyelo-nephritis urines are raised above normal alkalinity. It was further found by Morse that blood serum values of non-protein nitrogen and urine levels of urea and ammonia tended to return to normal following successful treatment. Whether these effects are directly related to efficiency of renal function or represent the results of a varying endogenous protein metabolism occasioned by tissue breakdown, due to the disease, is not clear. But it would seem improbable that such an improvement of renal function could occur in so short a time as to be reflected in a return to health within two or three days of the beginning of penicillin treatment.

The observations made in the present study indicate, on the other hand, that the symptoms of pyelo-nephritis are due mainly to the direct effects of bacterial multiplication. The studies made of the blood leucocyte picture support this contention. Thus the changes shown in the established disease are typical of a reaction to bacterial infection, but after successful penicillin treatment, the differential leucocyte count rapidly returns to normal, indicating that the effect of the drug is to cause removal of, or allay, tissue irritation. The irritant factor is presumably a metabolite of *C. renale*.

In the case of cow No. 694 which died during treatment and in No. 98 HH which showed advanced kidney disease at slaughter, neither animal displayed symptoms indicative of renal failure. This illustrated once again the remarkable safety factor present in the kidneys. *Post-mortem* examination showed, in addition to areas of marked degeneration in the kidneys, that the myocardium was also involved in a degenerative process. In the case of cow No. 694 it was believed that death was due to heart failure—presumably a remote effect of *C. renale* metabolism.

The conclusion drawn from these observations was that both local and general changes result from *C. renale* multiplication in the kidneys. Of these, the most obvious local effect is haematuria. Remote effects are seen as anorexia, loss of condition and fall in milk yield. When bacterial multiplication is prevented by administration of penicillin, haematuria disappears and removal of the general effects is reflected in resumption of appetite and consequent improvement in condition and milk yield.

In advanced disease the remote effects may kill the animal before symptoms of renal failure appear.

In view of the variable response of different cases of pyelo-nephritis to penicillin and the present high cost of treatment, prognosis assumes an important place, and rectal examination of the urinary system for palpable abnormalities is helpful. In the eleven cases recorded in this report six (420, 185, 447, 447J, ATIA, 680) showed no abnormality of left kidney, ureters or bladder. Following treatment, all of these were classed as clinical cures but one (ATIA) was excreting *C. renale* two months afterwards. In the five cows in which palpable changes were present, three (461, 18L, 654) showed no response to penicillin; one (98HH) showed marked temporary improvement with final relapse: and

the fifth (684) was clinically normal although excreting *C. renale* for a month following treatment, after which no further history was available.

Thus the evidence which has been adduced clinically indicates that the variable response to penicillin is probably related to the stage which the disease process has reached at the time of treatment. Lovell and Cotchin (1947), in the treatment of experimental pyelo-nephritis in mice, found that unless penicillin administration was begun very early in the infection, recoveries were not obtained. These authors also suggested that the varying sensitivity of different strains of the organism to the drug might affect the outcome.

Also related to the economics of treatment is the amount of penicillin required. The optimum dosage has not been established although Morse (1948) found that a daily injection of one million units produced a urinary concentration of penicillin which inhibited the growth of *C. renale in vitro*. The doses which were used in this report may have been unnecessarily high. That this was the case was suggested in respect of cow No. 98HH, in which a dose of 100,000 units twice daily produced the same temporary effect as the administration of three million units per day. On the other hand, in three other cases when smaller doses were tried, only temporary improvement followed, whereas when the higher dosage range of two million units daily was used, a more permanent effect was obtained. For the present, therefore, it appears advisable to employ large doses and the course which produced best results in this study consisted of a total of from six to ten million units, given at the rate of two million units every day.

Whilst complete and permanent recovery is the ideal outcome, it is occasionally desirable to prolong the life of a cow for a few months, or even weeks, for example in advanced pregnancy. In this case a course of penicillin may enable the cow to complete the gestation. Even when only a temporary "cure" occurs in the heavy-yielding cow, the increased quantity of milk secreted following treatment, may more than compensate for the cost of professional attendance. In low-yielding or dry cows which are remote from parturition it is unlikely that treatment will be economical.

## CASE RECORDS

### Case No. 420

Subject.—A three-year-old Friesian, calved her second calf 14.10.46.

History.—The first parturition was normal but after the second calving the foetal membranes were retained for three days. Since this time the urine had been red, the milk yield and appetite gradually decreasing.

Symptoms.—29.10.46. The bodily condition was poor. Almost complete anorexia; grunting respiration, milk yield 2½ lb. per day. T.102° P.76/min.

Urine Examination.—*Appearance*: dark brown. *Reaction* to litmus: acid. *Albumen*: positive. *Deposit*: erythrocytes, leucocytes, epithelial cells together with clumps of Gram positive diphtheroid organisms not identified in culture.

Blood Examination:—

| | Before treatment 29.10.46 | After treatment 12.11.46 |
|---|---|---|
| Neutrophiles Segmented ... | 19·5 | 25·5 |
| ,, Unsegmented | 38·5 | 6·0 |
| Lymphocytes ... ... ... | 38·0 | 52·5 |
| Monocytes ... ... ... | 3·0 | 3·0 |
| Eosinophiles ... ... ... | 1·0 | 13·5 |
| Basophiles ... ... ... | 0·0 | 0·5 |
| Total Leucocyte count ... | 5,800 | 6,950 |

Rectal Examination revealed no abnormality.

Diagnosis.—Pyelo-nephritis.

Treatment.—Starting on 30.10.46, the cow was given five million units of penicillin in doses of 500,000 units by intramuscular injection, T.I.D.

During the course of treatment appetite improved and the milk yield rose from 2 lb. to 14 lb. daily while the appearance of the urine rapidly approached normality.

General improvement was maintained and on 12.11.46 the milk yield was 34 lb. per day. A urine sample was collected and its examination revealed the following: *Appearance*: Normal. *Reaction*: Acid. *Albumen*: Negative. *Deposit*: Epithelial cells and calcium oxalate crystals. No *C. renale* in culture.

Thus as regards clinical examination, urine and blood examination, the cow was normal ten days after the end of penicillin treatment. Progress was satisfactory and the milk yield remained good. Our attention was next directed to this case on 29.10.47—about one year later. Tuberculosis of the mediastinal gland was diagnosed and confirmed at *post-mortem* examination on 14.11.47. The left kidney showed marked replacement of cortical and medullary parenchyma by fibrous tissue. *C. renale* was not present in kidney or urine.

Comment.—One year after penicillin therapy there was no evidence of pyelo-nephritis despite an intervening parturition.

### Case No. 185P

Subject.—A five-year-old Ayrshire cow, calved its third calf on 13.12.46. All three parturitions had been normal.

History.—On 4.5.47 it was learned that the urine had contained blood "for approximately ten days." The cow had lost condition during recent weeks and the milk yield was diminishing.

Symptoms.—4.5.47. Unthrifty appearance, T.102°, P.68/min. Milk yield 14 lb. daily. *Rectal examination* showed kidneys and ureters to be normal and the uterus empty.

Urine Examination.—*Appearance*: slightly pink. *Reaction*: alkaline. *Albumen*: positive. *Blood Pigment*: positive. *Deposit*: erythrocytes, leucocytes, diphtheroid organisms identified as *C. renale* in culture—and triple phosphate crystals.

Diagnosis.—Pyelo-nephritis.

Treatment.—13.5.47. A course of penicillin was commenced. 300,000 units were given by intramuscular injection in aqueous solution T.I.D., together with one million units late in each evening until 9,500,000 units had been given. During the course of treatment there was a marked improvement in the general condition. 21.5.47. Urine normal in appearance. 16.10.47. General improvement. Urine normal. 2.2.48. Heavily pregnant. Culture of urine negative for *C. renale*. 9.5.48. Calved.

Comment.—Cow has remained free of pyelo-nephritis for 19 months following penicillin treatment despite an intervening parturition.

### Case No. 447

Subject.—Young Friesian cow, calved September, 1946.

History.—Red urine since last calving.

Symptoms.—9.2.47. General bodily condition rather poor. T.101°. P.70/min. Milk yield 10 lb. daily.

Urine Examination.—*Appearance*: resembles blood. *Reaction*: neutral. *Albumen*: positive. *Blood Pigment*: positive. *Deposit*: erythrocytes and leucocytes, numerous Gram positive diphtheroids identified as *C. renale*.

Rectal Examination disclosed no abnormality.

Blood Examination:—

| | Before treatment 9.2.47 | After treatment 1.3.47 |
|---|---|---|
| Neutrophiles Unsegmented ... | 24·0 | 4·5 |
| ,, segmented ... | 33·5 | 31·0 |
| Lymphocytes ... ... ... | 32·0 | 50·0 |
| Monocytes ... ... ... | 6·5 | 2·0 |
| Eosinophiles ... ... ... | 3·5 | 12·5 |
| Basophiles ... ... ... | 0·5 | 0·0 |
| Total Leucocytes ... ... | 9,150 | 9,750 |

Diagnosis.—Pyelo-nephritis.

Treatment.—From 10.2.47 to 19.2.47 the animal was injected intramuscularly with 100,000 units of penicillin T.I.D., *i.e.*, until 3,000,000 units had been administered. 25.2.47. Appetite was normal, milk yield had risen to 17 lb. daily and the general appearance was brighter and the coat well kept. Urine still showed *C. renale* in culture although it was normal in appearance after being like unaltered blood. 4.3.47. A second course of penicillin commenced. This consisted of intramuscular injections bi-daily of 500,000 units until five million units had been administered. 10.3.47. Improvement in general condition and milk yield is now 28 lb. per day. 13.3.47. Urine normal in appearance but still positive for *C. renale*. Cow discharged from hospital. *February*, 1948. Calved normally.

Subsequent History.—18.4.48. Appearance normal. Milk yield 66 lb. per day. Urine appears normal but contains traces of albumen and sugar. Sediment. No. v.b.c's but a few diphtheroids isolated as *C. renale*. 23.10.48. Condition good. Pregnant five months. Urine clear. Albumen negative. *C. renale* absent.

Comment.—Clinically and bacterially normal 20 months after treatment, despite an intervening parturition.

### Case No. 461

Subject.—Young roan shorthorn cow.

History.—Has passed blood in the urine since calving two months ago.

Symptoms.—1.4.47. Good bodily condition. Almost constant uneasiness and kicking at the abdomen. T.103. P.84/min.

Urine Examination.—*Appearance*: pink with numerous masses of fibrin. *Reaction*: Alkaline. *Albumen*: positive. *Acetone bodies*: negative. *Deposit*: numerous erythrocytes and leucocytes, epithelial cells, many clumps of pleomorphic Gram positive organisms, identified in culture as *C. renale*.

Rectal Examination revealed enlargement of left kidney and ureter.

Diagnosis.—Pyelo-nephritis.

Treatment.—300,000 units penicillin T.I.D. followed by one million units late at night until 9,500,000 had been administered. 5.4.47. Urine still blood tinged, with fibrinous and purulent masses. Continuous severe abdominal pain with kicking at abdomen, gritting teeth, getting up and lying down repeatedly. Anorexia and lack of milk. Decided to destroy animal. Suspected obstruction of ureter. No *post-mortem* examination available.

Comment.—This was an acute case which was not influenced by penicillin treatment.

## Case No. 98HH

Subject.—A seven-year-old Ayrshire cow in an "attested" herd which had borne four calves, the last on 10.12.46. Each parturition was complicated by uterine inertia.

Symptoms.—Our attention was directed to this cow on 6.12.46 when the history was that it had been losing condition during recent weeks and occasionally passing blood in the urine. The cow was dry and heavily pregnant.

Urine Examination.—*Appearance*: port wine colour with large fibrinous coagula, and a high smell like that of a canine cystitis urine. *Reaction*: alkaline. *Albumen*: markedly positive. *Acetone bodies*: negative. *Blood pigment*: positive. *Deposit*: numerous red and white blood cells, epithelial cells and very numerous diphtheroid organisms mostly disposed in clumps. These latter were identified in culture as *C. renale*.

Rectal Examination revealed an enlarged left kidney with the left ureter thickened to the size of a little finger.

Blood Examination:—

| | Before treatment 6.12.46 | After treatment 16.12.46 |
|---|---|---|
| Neutrophiles Unsegmented ... | 10·0 | 6·0 |
| " Segmented ... | 31·0 | 30·5 |
| Lymphocytes ... ... ... | 55·0 | 58·5 |
| Monocytes ... ... ... | 4·0 | 2·0 |
| Eosinophiles ... ... ... | 0·0 | 3·0 |
| Basophiles ... ... ... | 0·0 | 0·0 |
| Total Leucocytes ... ... | 9,250 | 5,550 |

Diagnosis.—Pyelo-nephritis associated with *C. renale*.

Treatment.—7.12.46. One half million units were given intramuscularly T.I.D. until six million units had been administered. At irregular intervals during this treatment subacute colic was present. 13.12.46. (48 hours after the end of penicillin therapy) the improvement in the appearance of the urine was striking. Although the deposit contained red and white blood cells, with degenerated diphtheroids ingested by phagocytes, no *C. renale* appeared in culture. The general appearance of the cow improved. T. 101°. P. 80 to 90/min., and milk yield rose to 45 lb. per day. 16.12.46. Despite maintenance of clinical improvement *C. renale* was again isolated from the urine in pure culture and a degree of albuminuria was again present. During the next three weeks this case gradually relapsed. Condition was lost, the milk yield dropped from 45 to 30 lb. daily, the urine became grossly discoloured by blood and colicky attacks recurred. The appetite was variable. 7.1.47. A second course of penicillin was commenced. This consisted of larger doses—one million units T.I.D. until ten million units had been given.

During this treatment appetite improved and the milk yield increased from 30 to 48 lb. daily. The urine again became clear and the general condition was better. 12.1.47. (36 hours after end of second course of penicillin) the urine was free from blood constituents and *C. renale* was not present in culture.

Clinical improvement was maintained for a week when a second relapse occurred. 23.1.47. General condition deteriorating considerably with poor appetite and occasional attacks of colic. The milk yield has fallen from 48 to 30¾ lb. daily.

The urine was a muddy-red fluid, positive for albumen, alkaline in reaction, blood cells, and numerous diphtheroids identified as *C. renale* in culture. 24.1.47. A third course of penicillin was commenced, this time using much smaller quantities of the drug, *viz.*, 100,000 B.I.D., until one million units had been given.

During this treatment the appetite increased and the milk yield rose to 49½ lb. daily. The condition of the cow also improved considerably. 5.2.47. Urine free from blood but culture revealed *C. renale*.

From 5.2.47 to 3.3.47, clinical improvement was maintained with milk yield fluctuating between 40 to 50 lb. The urine remained free from gross blood. Thereafter there was a gradual third relapse with slow loss of condition, variable appetite and milk yield down to 13 lb. per day. At this stage it was decided that further treatment would be uneconomical. 15.5.47. Clinical examination revealed very poor bodily condition. T. 100°. P. 58/min. R. 18/min. Rectal examination disclosed left kidney of massive size, right kidney not palpable. Both ureters enlarged and easy to locate.

Urine of a faint pink colour with discrete blood clots and containing *C. renale*.

The animal was destroyed.

*Post-mortem* Examination.—Both kidneys tremendously enlarged to about three times normal. In the left organ the cortex was largely replaced by fibrous tissue. Calyces enlarged and little functional tissue remained. The right kidney showed large areas of degeneration, necrosis and fibrosis. Both kidney pelves contained a brownish fluid containing mucus, pus, coagula and sabulous material.

The bladder showed haemorrhagic ulcerating inflammation of its mucous membrane.

Comment.—Temporary improvement followed each of the three courses of penicillin and equally good results were obtained with the small dosage range, *viz.*, 100,000 B.I.D. as with the larger course of one million units T.I.D. None of the three treatments, however, cured the condition.

## Case No. 18L

Subject.—Roan Shorthorn cow. Tuberculin reactor. Calved 27.10.48.

History.—March, 1948, severe attack of colic, resolved spontaneously. 21.9.48. Blood appeared in urine.

Symptoms.—31.9.48. Good bodily condition. Pregnant six months. Not lactating. T. 101·6°. P.68/min. *Rectal examination* disclosed enlarged left kidney and right ureter 1·5 cm. in diameter.

Urine Examination.—*Appearance*: bloody. *Reaction*: alkaline. *Albumen*: positive. *Blood pigment*: positive. *Sediment*: numerous red and white blood corpuscles, triple phosphate crystals and masses of Gram positive diphtheroids identified in culture as *C. renale*.

Diagnosis.—Pyelo-nephritis.

Treatment.—13.10.48. 300,000 units penicillin T.I.D. plus one million units each evening until seven million units had been given.

During treatment the appetite did not improve and the urine remained heavily contaminated with blood. It was decided not to pursue the treatment in view of this unfavourable course. 13.10.48. Cow losing condition. Marked haematuria. *C. renale* still present in urine. 10.10.48. Animal was sold. No *post-mortem* examination available.

Comment.—An advanced case which was apparently uninfluenced by penicillin; a clinical and bacterial failure.

## Case No. 447J

Subject.—Friesian cow in "attested" herd; calved December, 1947.

History.—Unthrifty since calving but it was not until July that veterinary advice was sought.

Symptoms.—29.7.48. Poor condition., T. 101·8°. P. 68/min.

Urine Examination.—*Appearance*: pale straw-colour with grey opacities, some fibrin and blood clot. *Albumen*: positive. *Blood pigment*: positive. *Deposit*: numerous red and white blood cells. Masses of Gram positive bacteria in clumps, identified as *C. renale*.

Rectal Examination.—No abnormalities recognisable in kidneys or ureters.

Diagnosis.—Pyelo-nephritis.

Treatment.—30.7.48. 300,000 units T.I.D. followed by one million units at night were administered daily by intramuscular injection until ten million units had been given.

Blood Examination:—

| | 30.7.48 | 5.8.48 |
|---|---|---|
| Total leucocyte count ... | 8,000/cu.mm. | 8,750 |
| Unsegmented ... ... | 7 per cent. | 3·5 |
| Segmented ... ... ... | 48·5 " " | 29·0 |
| Lymphocytes ... ... ... | 25·5 " " | 49·0 |
| Monocytes ... ... ... | 1·5 " " | 6·0 |
| Eosinophiles ... ... ... | 16·5 " " | 12·0 |
| Basophiles ... ... ... | 1·0 " " | 0·5 |

7.9.48. Cow has improved considerably in condition and milk yield. 14.10.48. Condition and milk yield maintained. 18.11.48. Clinically static. Seven months pregnant. Trace of albumen; no blood; no *C. renale*.

COMMENT.—Clinical improvement and bacterial cure.

### Case "ATIA"

SUBJECT.—Three-year-old Ayrshire cow in "tuberculin-tested" herd. Calved first calf 23.10.47. Not pregnant.

HISTORY.—Has been in poor condition for several months, with anoestrus. 30.8.48. Blood clots noticed in urine.

SYMPTOMS.—31.8.48. Appetite normal and general appearance bright but condition poor.

RECTAL EXAMINATION.—No abnormality. T. 101°. P. 65/min.

URINE EXAMINATION.—Slightly opaque, no obvious clot. T.101°. P. 65. *Reaction*: pH 8·5. Sp. Gr. 1022. *Albumen*: positive; sugar ketones, bile—negative. *Sediment*: Gram positive large diphtheroids identified as *C. renale*.

TREATMENT.—31.8.48. 300,000 units penicillin T.I.D. plus one million units at night until six million units given. 6.9.48. Urine normal in appearance but positive for *C. renale*. Milk yield increased by 2 lb. daily from pre-treatment level. 20.10.48. Intermittent passage of small blood clots in urine. Ureters and kidneys not palpably enlarged. Urine positive for *C. renale*. Improvement in general condition. 20.12.48. Good bodily condition; no haematuria.

COMMENT.—A clinical improvement and bacterial failure.

### Case No. 680

SUBJECT.—Crossbred Friesian cow, calved its second calf (dystocia) 15.4.48.

HISTORY.—Development of haematuria during recent weeks with loss of condition and reduction in milk yield.

SYMPTOMS.—10.9.48. Bodily condition fair; appetite poor. Milk yield 15 lb. per day. T. 100·6°. P. 70/min. Rectal examination disclosed no abnormality.

URINE EXAMINATION.—*Reaction*: alkaline. *Albumen*: positive. *Blood pigment*: positive. *Sugar*: negative. *Deposit*: Blood cells, sabulous material and clumps of Gram positive organisms identified in culture as *C. renale*.

TREATMENT.—15.9.48. Penicillin course commenced. 300,000 units T.I.D., plus 1,000,000 each night until ten million units had been given. During treatment the milk yield increased from 15 to 30 lb. per day. The urine became clear, free from albumen and cultures were negative for *C. renale*, only *Staph. aureus* appearing. 10.11.48. Clinically normal. 20.12.48. Clinically normal.

COMMENT.—A clinical and bacteriological cure.

### Case No. 694

SUBJECT.—First calf Shorthorn cow, pregnant five months.

HISTORY.—Haematuria for several weeks with loss of condition and reduction in milk yield.

SYMPTOMS.—6.10.48. Bodily condition poor. Appetite fair. T. 101·7°. P. 49. Not lactating.

RECTAL EXAMINATION revealed both ureters to be enlarged approximately to 2 cm. in diameter, but the left kidney showed no palpable abnormality. Micturition was normal.

URINE EXAMINATION.—*Appearance*: Heavily contaminated with blood and fibrinous masses. *Reaction*: Markedly alkaline. *Albumen*: Considerable amount present. *Blood pigment*: positive. *Sediment*: Numerous blood cells and masses of Gram positive diphtheroids isolated in culture as *C. renale*.

TREATMENT.—Starting on 8.10.48 a course of penicillin was administered and consisted of 300,000 units T.I.D. plus one million units each night until 9,300,000 units had been given.

During the course of treatment there was little change in the bloody appearance of the urine, the appetite became poor and the bodily condition gradually deteriorated. The pulse rate fluctuated between 64 and 96 and the temperature from 100 to 101·7°.

In view of the complete lack of clinical response to this course of penicillin, it was decided to observe the effect of a massive dose—five million units—given at 6.30 p.m. on 13.10.48.

14.10.48, 15.10.48. No improvement in appearance of urine, general condition deteriorated and the cow died on 15.10.48.

*Post-mortem* EXAMINATION.—There was no sign of specific disease other than pyelo-nephritis, although numerous congested areas in the small intestine were rather like early lesions of Johne's disease; some of these were examined microscopically but with negative results.

Other signs of toxaemia were seen as numerous epicardial petechiae and areas of degeneration in the myocardium. The heart valves were normal.

The kidneys were slightly enlarged and showed extensive areas of degeneration, in some cases whole lobes being of a greyish white to buff colour. Other areas showed marked congestion and in some places the capsule was adherent.

On section the most marked changes were in the cortex where the clearly marked areas of congestion, degeneration and fibrosis were outstanding.

The mucous membrane of the kidney pelves was thickened and petechiated. On it were numerous gritty masses surrounded by fibrin which in some cases had become aggregated to form calculi. Blood and sabulous material were also present in the main tubes entering the pelvis.

The ureters were grossly diseased and distended to a diameter of two centimetres, with gross thickening of the ureteral wall and petechiation of the mucous membrane.

The bladder was normal apart from a congested area at the trigone.

*C. renale* was isolated from the kidney cortex.

COMMENT.—An advanced case which was not influenced clinically or bacteriologically by penicillin.

### Case No. 654

SUBJECT.—Two-year-old Friesian cow, calved first calf March, 1948.

HISTORY.—Inclined to "dribble" urine since calfhood. Haematuria first seen soon after parturition.

SYMPTOMS.—21.6.48. Bodily condition fair. T. 101·6°, P. 66. Appetite variable, occasional attacks of colic.

RECTAL EXAMINATION showed that both ureters were enlarged. Left ureter 2 cm., right ureter 1 cm. Left kidney not palpably enlarged.

URINE EXAMINATION.—*Appearance*: blood-red, with clots. *Reaction*: alkaline. *Albumen*: positive. *Blood pigment*: positive. *Ketones*: negative. *Sediment*: Groups of Gram positive diphtheroids identified in culture as *C. renale*, red and white blood corpuscles.

BLOOD EXAMINATION: 23.6.48.

| | Beginning of Treatment | 48 hours later |
|---|---|---|
| Total leucocyte count ... | 16,300/cu.mm. | 12,550 |
| Differential " " ... | | |
| " Unsegmented ... | 23·5 per cent. | 20·5 |
| " Segmented ... | 52·5 " " | 38·0 |
| " Lymphocytes ... | 22·0 " " | 34·0 |
| " Monocytes ... | 1·5 " " | 1·0 |
| " Eosinophiles ... | 0·5 " " | 6·5 |

TREATMENT.—23.6.48. Half the usual penicillin dosage was used, *viz.*, 150,000 units T.I.D. plus 500,000 each night until eight million units had been given.

During treatment the animal continued to show colic with bellowing, uneasiness and kicking at the belly.

Rectal examination on 22.6.48 led to marked uneasiness and bellowing when the left kidney was palpated.

The appearance of the urine improved, blood disappeared and the excretion of albumen reduced from 1·75 to 0·3 grammes per litre of urine as shown by Esbach's albuminometer. Appetite improved and daily milk yield increased from 10 to 23 lb.

Despite this marked improvement the urine was again of a pale red colour on 6.7.48 and showed *C. renale* in culture. A second similar course of penicillin was therefore started and finished on 8.7.48 when a total of 1,750,000 units had been given.

13.7.48. A few clots of fibrin were present in the urine together with traces of albumen and *C. renale* was present in culture.

During the next month the animal was clinically normal. It was then sold.

COMMENT.—Marked clinical improvement despite persistence of infection.

### Summary and Conclusions

1. The occurrence of bovine *C. renale* pyelo-nephritis is discussed in relation to season and proximity to parturition and it is suggested that the tendency to a winter incidence may be related to autumn parturition.

2. Published work on the treatment of the disease with penicillin is cited and original case records are given of the treatment of eleven cows with this drug. Five of these have remained normal since treatment for periods of up to 22 months, three showed temporary improvement followed by relapse and three were uninfluenced.

3. The significance of *C. renale* excretion and haematuria following treatment is discussed. Bacteriological findings were not closely correlated with clinical signs; recurrence of haematuria was an unfavourable symptom but *C. renale* excretion was often compatible with health.

*(Concluded at foot of next column)*

## I. Some Conditions of Veterinary Interest in Goats*

*By*

GEO. N. GOULD, M.R.C.V.S.

SOUTHAMPTON

The small goat population in this country—particularly when compared with the number of dairy cattle—and its somewhat sparse distribution, for the main part in very small units, inevitably has resulted in a tendency for veterinary literature to be singularly devoid of text-books or articles concerned with goats in health or disease. In the near future, the National Veterinary Medical Association, through its Technical Development Committee, will be publishing a handbook dealing with goats which I am sure will be of considerable value to all concerned.

In some practices opportunity arises for considerable clinical experience to be acquired, but it has to be admitted that there is an urgent need for research devoted to the elucidation of a number of problems—not the least of which are the nutritional requirements of the high or relatively high producer.

The British Goat Society is a very active and progressive body whose council over many years has done much to interest, educate and keep informed its many enthusiastic members, ranging from cottagers maintaining one or more goats for the family milk supply, to those maintaining herds for commercial milk production. Membership of this Society is a most useful way of keeping in touch with current affairs and topics of interest in the goat world, its regular monthly and annual publications being most informative.

The goat as a patient presents certain difficulties which soon become manifest. Goats have an individuality which demands attention: they respond to quiet handling, avoidance of noise and fuss, and make satisfactory patients only when treated in that way.

Temperament tends more towards the sheep than the cow, but they are far more active and mischievous.

In my experience, most owners keep them under good, or reasonably good, conditions and have considerable sentimental attachment to them.

The value of a milking goat to-day and the price which goat's milk commands commercially, make these animals patients of considerable economic importance in addition to providing studies of absorbing veterinary interest both in health and disease.

The cost of rearing to maturity, and the insistence of the owner on progeny passing to approved homes only, are factors in keeping numbers down but there can be little doubt that the war and milk rationing has brought about a considerable increase in the numbers maintained and consequently their distribution and the demands for veterinary services.

Disbudding, to ensure hornlessness, is practised almost universally in this country and in my experience, the best technique is the use of the disbudding iron of the Hebeler type at about seven days old, although it can be used up to one month or even more. The iron is used at cherry-red heat and is applied for one spell of ten seconds or two of five seconds over the horn bud, subsequently applying the side of the iron to flatten the area within the circle, thus delineated to the level of the surrounding skin. The absence of apparent pain after the immediate application of the iron and of painful or "shock" after-effects, not uncommon following the use of caustic potash, is very marked. Local anaesthesia can be induced by infiltrating around the hornbud.

It is interesting to note that research in America indicates that the occurrence of hermaphrodism is associated with the mating of the hornless male to the hornless female—the dominant gene for hornlessness being closely linked with the recessive gene for hermaphrodism.

Dehorning of adult goats can be carried out under general or local anaesthesia, the latter by nerve block, sawing the horn off as close as possible to the skull. Haemorrhage is not profuse and needs no special attention. In my experience—as with cattle—there is usually no need to apply protective dressings or to prescribe after-treatment. Where evidence of sinusitis or discharge occurs, the local application of penicillin in oil gives remarkably satisfactory results, a short cap of horn subsequently covering the sawn off horn.

Wounds of goats do not appear to be so susceptible to *C. pyogenes* infection as appears inevitable in cattle. Cleansing, debridement and suturing, powdering the wound with sterile sulphanilamide and applying protective dressings (where the dressings are likely to be protected from the mischievous habits of the patient) give good and satisfactory results.

The occurrence of supernumerary teats is not uncommon and demands the inspection of all female progeny within a day or two of birth to ensure removal at that time if present. They can of course be removed later with the usual anaesthetic and aseptic precautions.

The diagnosis of pregnancy by palpation other than in the advanced stages is, in my experience, quite unsatisfactory and presents insuperable difficulties.

The occurrence of so-called "cloud burst" or pseudo-pregnancy is not uncommon and is difficult to diagnose until, after apparently undergoing all the normal signs of approaching pregnancy, a large volume of cloudy fluid is voided through the vagina and abdominal distension disappears. The cause of the condition is obscure but is probably hormonal in character. Goats usually come into milk after "cloud burst," giving a reduced yield however, and breed normally subsequently.

The handling of the goat at parturition demands particular care. In my experience it is advisable to avoid all manual interference if possible. The marked susceptibility of the patient to shock and metritis indicates the need for extremely careful and gentle manual interference, preferably under epidural anaesthesia, which in my experience is of great value and very satisfactory. Full and proper attention to cleanliness of the vulval area, antisepsis and lubrication, with strict appreciation of the limitation of space available for manipulation, is essential.

The retention of the foetal membranes is not an uncommon sequel of assisted delivery. Manual removal presents very great difficulty and danger and is undesirable and unnecessary. Where constitutional symptoms arise, treatment by intramuscular injection of penicillin in massive doses at 24-hour intervals has proved very satisfactory.

Caesarean section can be performed and is preferable to prolonged manual interference. Chloral hydrate intravenously, or nembutal—one grain to 8 lb. of body-weight—are suitable anaesthetics. The technique of operation I prefer is to have the goat lying on the left side; after shaving an area about one foot square on the right flank, bounded by the last rib and cartilages of prolongation extending downward to the line of the belly and upward for one foot, a downward incision is made vertical to the posterior surface of the last rib about six inches long and reaching almost to the line of the belly. After incising the skin muscles and peritoneum the folded omentum is found lying immediately beneath and when displaced forward by the insertion of the hand, the pregnant uterus is encountered. By finding and lifting within the uterine horn a limb of one of the contained foetuses, the uterus is brought into the incision; two supporting sutures are inserted and a pouch brought out for incision, through which the hand is inserted, and the foetuses removed. The foetal membranes are not removed unless they are lying free or respond to very gentle traction. The uterine wound is sutured with Lembert's sutures. If the other horn is gravid it is usually necessary to make an incision into it in the same way rather than attempt to manipulate the contained foetus through the body of the uterus. The peritoneum and muscles are

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4. The mechanism of disease production and resolution following penicillin was considered and it was concluded that the symptoms shown result directly from *C. renale* metabolism rather than from failure of renal function.

5. A guide to prognosis was afforded by rectal examination of the urinary organs. The outcome was largely dependent on whether or not palpable changes were present.

6. The economics of treatment are dealt with and the dosage range recommended was from six to ten million units given at the rate of two million units per day.

ACKNOWLEDGMENTS

Thanks are due to colleagues in the Department of Veterinary Pathology of the University who kindly carried out numerous cultural examinations of urine specimens and to the practising veterinary surgeons who provided some of the cases.

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sutured with chromic catgut No. 1, the skin with nylon and a protective coat of towelling applied.

Preparturient prolapse of the vagina is not uncommon in mature females in the later stages of pregnancy. Where the patient is used to being tied in a stall, elevation of the hind quarters may be satisfactory; as an alternative, suturing of the vulva after return of the prolapse or the application of a soft cord truss, are useful means of dealing with this condition.

The prolapse usually disappears after parturition but in such subjects it is desirable to take similar precautions for a few days after delivery to avoid injury should prolapse occur, to obviate the risk of uterine eversion.

Stilboestrol implants—made subcutaneously—placing the implant in a small pocket behind the thin trapezius muscle in the lower third of the neck, will stimulate lactation in non-pregnant, non-lactating females. Intramuscular injections similarly can be used. Induction of lactation by use of stilboestrol is not without danger of spontaneous fracture of the pelvis as a result of the pelvic relaxation induced. In my experience where this method of inducing lactation has been used in infertile females and shy breeders subsequent attempts to breed have not been successful.

The occurrence of virgin milkers is quite common—from as early as five to six months old upwards—and is not indicative of subsequent milking merit. Lactation following parturition may be continued over a long period if the goat is not bred from the next year or subsequently.

Milk fever may occur at any time in lactation—the goat being particularly susceptible on account of low calcium intake and high milking propensity—but is more commonly associated with parturition. Clinically the condition appears to be an acute hypocalcaemia with an associated hyperphosphataemia. It progresses very rapidly from the initial paddling stages to coma. It responds readily to intravenous calcium given by the jugular vein—administering slowly one to one and a half ounces of calcium borogluconate in 150 to 200 c.c. of water. Placing the goat in a natural, comfortable, recumbent position is advisable; flatulence usually disappears within a few minutes and as a rule recovery is very rapid. The feeding of palatable, good quality meadow hay and cereals as soon as the goat will eat—usually a matter of minutes, not hours: even before standing again—is, in my experience, good practice, and instructions *not* to milk for 24 hours and simply to relieve udder distension by milking out a small quantity only, are invaluable in preventing relapse associated with milking out. The administration of borogluconate granules as they are, or dissolved in boiling water (half to one ounce in the concentrates for several days subsequently) if the goat will take it, is also of value.

Where recumbency persists over six hours, repetition of intravenous injection and the intramuscular injection of an organic phosphorus preparation, such as Bayer's "Tonophosphan," has proved of great value.

Acetonaemia is not uncommon and responds to glucose intravenously or by the mouth, vitamin A intramuscularly, feeding of good quality hay (meadow hay usually) and cereals of high starch quality (flaked maize, ground barley, good quality oats). Potatoes, boiled or pulped, are also useful foods in this condition.

The proper rationing of goats for maintenance and production is extremely difficult and attempts to ensure an adequate mineral intake by provision of a mineral supplement are usually a lamentable failure due to the truly selective feeding of goats which refuse all foods other than those they find attractive and palatable.

The immense variety of foods taken by the goat—a browsing animal as opposed to a grazing animal—makes it extremely economical to maintain but the high milking propensity of the modern goat demands particular and individual attention to diet. Foods fed by hand should be of good quality to make up for lack of quality of those readily taken when browsing. Good pasture repeatedly changed is of great value where it proves palatable and attractive. Folding on to small units by use of the electric fence—or tethering and moving on at very short intervals of a day or two—are desirable if palatability is to be maintained. Concentrates similar to the production ration for cows are fed at the rate of five ounces for each one pound of milk produced, but few high yielders (if 1½ gallons or more) will actually eat an adequate proportion for their production.

In my experience the administration of calcium borogluconate often has a spectacular effect in enhancing milk production, and indicates the importance of calcium intake on the physiological processes. Many owners administer calcium lactate regularly and claim considerable benefit. It appears to be taken fairly readily in food but in some cases is administered in tablet form, 20 to 30 grains being given daily. As stated previously, all feeding and attempts to supply mineral supplements are strictly limited by what the goat will take readily; if they prove unpalatable, all food objected to will be persistently refused.

Parasitism is a problem of great importance and demands careful attention to management. Clinical parasitic gastro-enteritis is of frequent occurrence and recurrence in the absence of prophylactic measures which are—in brief—the maintenance of the highest possible standard of nutrition, the management of tethering, browsing or grazing to avoid mass infestation by repeated short-term provision of fresh tethering ground or pasture and the routine dosing with phenothiazine twice a year. Copper sulphate is also useful and can be provided regularly by the provision of 1 per cent. pure copper sulphate salt licks, when the goats find them palatable.

Phenothiazine in full doses may be accompanied by manifestation of malaise—reddening of the skin in white goats and of the milk in lactating goats and other toxic effects; in consequence its administration in small doses daily over a period, dividing the full dose into one or two gramme doses, not infrequently is adopted and with success, particularly where the goat will take it readily in the food assisted by some sugar or molasses. Some breeders prefer dosing with copper sulphate (1 per cent. solution in medicinal doses for five days) and claim as good or as satisfactory results.

The evidence of parasitic bronchitis demands similar prophylactic measures. When it occurs clinically housing appears essential in treatment which is usually prolonged.

Taeniasis—infestation by two species of monieza which occurs in sheep—is met with and responds to copper sulphate medication.

The browsing habits of the goat render plant poisoning particularly common; rhododendron is probably the commonest plant poison met with and I have yet to find a better remedy than the old-fashioned one of a mixture of lard and sodium bicarbonate. Yew and laurel are also common causes of poisoning. Acorn poisoning, associated with rumenal impaction, frequently responds to feeding with hay in small wisps which are chewed and swallowed reflexly, followed by regurgitation of the swallowed acorns and subsequent recovery.

Coccidiosis is common in goats and presents the usual symptoms of diarrhoea and dysentery. Response to sulphamezathine in medicinal doses is spectacular. Mecryl would appear to be indicated as an alternative and cheaper treatment.

Mastitis is associated with infection by organisms in some instances of the same groups as those associated with mastitis in cows. Milking efficiency is without a doubt the biggest contributory factor. Rapid milking such as that which can be induced by the adoption of the hot milking method, using a separate udder cloth in hot water at a temperature of about 125 degrees for each goat, is an undoubted stimulus to let down and to more rapid milking. *Str. agalactiae, dysgalactiae,* and haemolytic streptococcal infection are all met with and respond to penicillin by intramammary injection, preferably administered by tubes.

Staphylococcal infection also occurs but is more resistant to treatment, partial or complete loss of the infected quarter being common. Acute mastitis caused by staphylococci presents a public health problem of importance. Sulphanilamide appears to be toxic for goats and is better avoided.

Tuberculosis can and does occur in goats. It is commonly bovine in origin. The lesions are usually pulmonary but tuberculosis of the udder has been encountered. Johne's disease also occurs but diarrhoea is not such a marked feature as in cattle and the *post-mortem* lesions are less obvious.

I have purposely avoided reference to entero-toxaemia in view of the paper that is to follow.

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## II. Enterotoxaemia in Goats*

*By*

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VETERINARY INVESTIGATION OFFICER, LEEDS

My experience of enterotoxaemia in goats, though limited to one outbreak and to a few isolated cases, will, I hope, prove of some value to you in your discussion.

British literature on the subject is limited, but it seems to be agreed that enterotoxaemia in goats is caused by *Cl. welchii* type D.—the germ which causes pulpy kidney disease in lambs. Whether there are two distinct strains of the germ has not been determined. The widespread distribution of pulpy kidney in lambs would suggest that the disease in goats should also be widespread, and from information received this would appear to be the case. Goats under two years old seem to be most susceptible but older goats are not altogether resistant and cases have been seen in goats up to seven years old. Most cases have been seen in the spring and summer months.

In my own experience and from published work, the severity of an attack may vary from the peracute type which causes

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death in 24 hours to the chronic type which lasts for up to three weeks or more and is followed usually by recovery.

In the peracute type there is violent watery diarrhoea and severe abdominal pain. The animal is very depressed and refuses food. Prior to the coma which precedes death the animal screams with pain. Rectal temperatures in this type of case are about 105° F. On enquiry into the history in milking goats the owner frequently reports a decrease in milk yield at the milking prior to the onset of the symptoms. In some of the peracute cases the goat has been found dead in a pool of watery diarrhoea occasionally stained with blood-tinged mucus. Few, if any, of these recover. In the acute cases the symptoms are similar, only less severe. The animal may take food from time to time and the illness last three or four days, followed sometimes by recovery if appropriate treatment is carried out. In the chronic or subacute cases there is intermittent illness lasting for several weeks. The goat has a staring look, passes loose motions, has a capricious appetite, and if she is a milker her milk yield drops. Only the knowledge that enterotoxaemia has existed on the farm can arouse suspicion of the disease, and the disease can only be confirmed on *post-mortem* examination or by discovering that there has been a rise in the epsilon toxin content of the blood.

*Post-mortem findings.*—The finding of haemorrhages on the epicardium, together with areas of inflammation in the small intestine, is significant. In only one case have I seen true pulpy kidneys. Confirmation of the disease should be made by toxin neutralisation tests in mice, using filtrates of the contents of the small intestine.

*Treatment.*—At first the use of serum only, even in doses of 50 c.c. twice daily, failed to give satisfactory results. This may have been because the type was the peracute one. During the past year this dose of serum has been combined with 3 to 4 grammes sulphamezathine, and in the three cases treated recovery has occurred within 48 hours. In the only fatal case this last year, death occurred at a show and only serum was given. I am not prepared to state that it is necessary to combine serum with sulphonamide therapy.

*Prevention.*—Most, if not all, of the cases investigated have been associated with a change of food, particularly the introduction of succulent green food to the ration. For that reason on the farm, where enterotoxaemia has been mainly investigated, the owner introduces green food very gradually. This is similar to the disease in lambs when deaths are anticipated when the flock is introduced to swedes or turnips or clovers for the first time. In spite of the gradual introduction of green food, cases may still occur, but not so frequently.

In conjunction with the Wellcome Physiological Research Laboratory we carried out a fairly extensive trial, using pulpy kidney vaccine. It was demonstrated that it was impossible to produce a high antibody response to vaccination. This was not unexpected, since it was found that even an attack of the disease did not create a high antibody response. It was shown, too, that the antibody content of the blood waned gradually until after six months the titre had returned to normal. Vaccinations were carried out on goats from three months old upwards and a second dose was given after a month's interval. Even in cases where vaccination was carried out monthly over a period a high antibody content was never obtained. In spite of the disappointing results we are satisfied that the vaccination has been of some benefit since no acute cases have occurred since vaccination was started and the few cases seen have recovered quickly following treatment with serum and sulphamezathine. These cases were confirmed by blood analysis when a rise in epsilon antitoxin was found in the blood after recovery.

In general, therefore, my advice in the prevention of enterotoxaemia in goats would be to make changes in feeding gradually and where deaths from the disease have occurred, to vaccinate the animals in the herd over three months old with pulpy kidney vaccine. It would be expected that although mild cases might occur, the disease would rarely prove fatal. Afterwards a further single dose of vaccine should be given in the early spring each year.

A point worth noting is that in certain cases—possibly only in the Saanen breed—an idiosyncrasy to serum injections may be noticed. This was reported in *The Veterinary Record* by Quarmby and has been seen in another Saanen herd in Yorkshire. The animals appear to be allergic to serum which produces alarming symptoms and even death.

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### Discussion

Miss Woods congratulated the speakers on their valuable papers and asked whether in Mr. Gould's experience cryptorchidism was usually due to an hermaphrodite condition and if such kids could therefore safely be assumed to be sterile on maturity? She asked Mr. Shanks if there was any method of breaking down the serum-anaphylactic tendency in Saanen type goats either by testing with very small doses or double dosing within the "anaphylactic period."

Mr. Gould replied that cryptorchidism was not always connected with hermaphrodism but was hereditary and therefore it was inadvisable to breed from these animals.

Mr. Shanks drew attention to an article in the *Record* by Mr. Quarmby, of Beverley, who had had trouble from anaphylactic shock in Saanens. He injected small test doses with no injurious results, but large doses still produced anaphylaxis. He had had good reports of the use of solusalvarsan in such cases, one private owner having great faith in this product as a cure for enterotoxaemia, and suggested that that drug be used where anaphylaxis caused trouble.

Mr. Gould remarked that in connection with solusalvarsan, where the owner was on the spot and could get the dose in at the very first sign of trouble, there was a much greater chance of success.

Miss Welch asked what poisonous plants the goat could eat with impunity? Did anthrax occur in goats? If so, it would be advisable to carry out a blood test in cases of sudden death before setting into the *post-mortem* examination. What method of dosing for worms had the speaker found most satisfactory?

Mr. Gould: The Report on the Husbandry and Diseases of Goats of the Technical Development Committee of the Association would include a list of the main plants poisonous to goats. Anthrax had been reported in goats in America. With regard to worm dosage, he often used the method of repeated small doses of phenothiazine, 1 gramme daily for 10 to 12 days according to the size of the animal. Changes in milk and pigmentation of the skin did not occur with small daily doses.

Mrs. Gordon Wilson (a visitor): She had had considerable practical experience of goat-keeping. She had several losses from the acute form of enterotoxaemia following the turning out of the animals on to a new pasture. Treatment of the less severely affected animals had been the use of P.K. Serum combined with penicillin. In one recent case in a kid the supply of P.K. Serum was delayed and although penicillin was given the kid died screaming in agony with the typical symptoms. This kid, however, had been nowhere near the new pasture.

Mr. Shanks explained that the *Cl. welchii* organisms were ubiquitous so that eradication from soil was impossible.

Mr. Harris: He had charge of a herd of 400 goats and came across interesting cases. He cited the case of a Saanen stud male with an udder giving milk behind the testicles. In connection with the breeding of goats out of season, when he had taken over, the males were running with the females and progeny came out of season. He had removed the males and allowed them to run with the herd only at the normal breeding season so that the kids arrived at the normal time. He thought that by selection of strains with a later oestral period, and by running the male with the herd, breeders who wished to do so could produce later kids. Was it possible to dip in large herds to get rid of external parasites? He used sulphamezathine in scouring kids with excellent results; was it possible that these cases were due to coccidiosis? Could Mr. Gould explain when he used phenothiazine and when copper sulphate for worming? He would like to ask Mr. Shanks whether the nature of the ground or changes in weather influenced the incidence of enterotoxaemia. Did braxy occur in goats? He knew that anthrax could occur experimentally.

Mr. Gould replied that males giving milk had been reported. According to a recent investigation in America, hermaphrodism was associated with the gene of hornlessness. The nutrition standard would probably help in the production of kids out of season. He had never dipped goats, but would suggest one of the gammexane preparations. He had found coccidiosis a fairly common condition in kids, generally at about six weeks of age. Sulphamezathine produced excellent results and so did Mecryl. Copper sulphate was useful in the treatment of worms when dosage with phenothiazine proved unsatisfactory.

Mrs. Gordon Wilson: She had very good results with routine dosing of phenothiazine of 10 grammes to adults and 5 grammes to kids. She had faecal samples tested each month and as long as routine dosage was carried out these returned a low egg count.

Mr. L. E. T. Branch said that he had had unsatisfactory results with phenothiazine in animals in poor condition.

Mr. Gould: One of the great disadvantages of massive doses in white goats was the possible discoloration of the skin. This did not occur when small doses were given over a period of time.

Miss Howell asked whether copper sulphate was more effective than phenothiazine in the treatment of trichostrongylosis. She cited a case where the goat had been dosed with phenothiazine but continued to lose condition and on *post-mortem* examination was found to be heavily affected with trichostrongyles.

Mr. Gould suggested that copper sulphate might be useful in such cases.

Mr. Shanks: This year the egg count in many sheep had been increased after dosage with phenothiazine. It was agreed that *ostertagia* and particularly *nematodirus* were resistant to phenothiazine but that trichostrongyles responded to it. In reply to Mr. Harriss, he said that types of soil made no difference to the incidence of enterotoxaemia, but that climate did: cases were more numerous in spring and summer. He thought that goats would be susceptible to braxy but were seldom in contact with the predisposing cause of frosted food.

Miss Freak pointed out that small doses of phenothiazine given over a period were very effective in maintaining a low egg count and in keeping pastures free from excessive infection, but in an individual animal badly infested with worms and in poor condition, it might be advisable to give a massive dose. To a very badly infested adult goat she had given 40 grammes with safety. She agreed that in the average herd small routine dosage was safer. She asked Mr. Shanks whether he had had any experience of the use of the antihistamine preparations used with or before serum as a possible means of preventing anaphylactic shock. Had Mr. Gould met arthritis in goats? She had one case where both stifles were affected, giving a most stilted action, and on *post-mortem* examination all the articular surfaces were eroded.

Mr. Shanks replied that adrenalin had proved useless to prevent anaphylactic shock, but that he had no information on the use of Anthisan or Pholedrine.

Mr. Gould suggested routine dosage twice a year with small repeated doses of phenothiazine. When large doses were given repeatedly some animals might prove somewhat susceptible to the drug. He had met laminitis in goats but not arthritis. Dr. Glover had reported cases of osteo-dystrophia-fibrosa associated with an aphosphorosis. A condition similar to "stiff sickness" in lambs had also been reported when the action was stilted and the limbs held rigid; this gave the impression of arthritis but there were no joint lesions. He had mentioned the difficulty of getting goats to take mineral preparations.

Miss Holman enquired what results Mr. Gould had had from the use of stilboestrol in goats. She had very poor results when giving it to produce oestrus and mentioned one case where a goat had been mated but at the request of the owner stilboestrol was given later, this goat showing no signs of pregnancy. At normal term from the original mating, however, she produced three embryos of approximately three week's growth and went into full lactation. She had found that wounds in goats healed well. In cases of prolapse of the vagina this was replaced and the animal kidded normally. She also had had good results with sulphamezathine and Mecryl in the treatment of coccidiosis.

Mr. Gould: Stilboestrol was inhibitory to ovulation and although it might produce outward signs of oestrus this would be fertile only in exceptional cases. He had tried anterior pituitary preparations both alone and in conjunction with stilboestrol with apparent success in only a small number of cases. Goats were not as susceptible to pyogenes infection as cows, so wounds generally healed well. In cases of prolapse in older goats heavy in kid he found it advisable to use a rope truss as the prolapse tended to recur, the part to become injured and replacement difficult.

Miss Uvarov was glad that Mr. Gould regarded the goat as an individual. Was the Zondek urine test of any value in pregnancy diagnosis in goats? What suture material did Mr. Gould prefer for caesarian section? What was his experience with regard to abortion and pneumonia in the goat? Prior to the advent of penicillin she had had good results with the use of sulphapyridine.

Mr. Gould stressed the importance of getting the confidence of both animal and owner, and the necessity of gentle handling for the goat. The Zondek urine test was of no value in the goat; palpation was the only method of pregnancy diagnosis and that was very uncertain. In suturing for caesarian section in the goat he used chromic catgut No. 1 for uterus and muscle, and nylon for the skin. Pneumonia often responded to sulphapyridine or penicillin and in cases where parasitism was present, to the use of pyogenes serum.

### Weekly Wisdom

*No one is exempt from talking nonsense; the misfortune is to do it solemnly.*—Montaigne.

## CLINICAL COMMUNICATION

# A Case of Ventral Hernia in a Cow*

A. MARR

Royal (Dick) Veterinary College, Edinburgh

*Subject.*—A six-year-old Ayrshire cow, 6½ months pregnant.

*History.*—The cow had been at grass with the rest of the herd for a few hours in the afternoon and it was presumed that she had been horned.

*Examination.*—The cow was only in fair bodily condition. There was a rounded swelling slightly smaller than a football low down on the right flank, just in front of the udder. On the summit of the swelling there was a wound about 4 inches long, through which a loop of bowel was protruding. The surface of the exposed bowel was dry and slightly cracked, and straw, dung, etc., adherent to it. The swelling was diagnosed readily as a hernia with eventration of a loop of bowel. Although the cow was a little dull she showed no severe general signs, and the mucous membranes gave no indication of internal haemorrhage.

*Prognosis.*—It was considered worth while to attempt reduction of the hernia and suturing of the wound. The owner was warned that post-operative infection was likely to follow. The fact that the animal was 6½ months pregnant was considered unfavourable in giving a prognosis, as the weight of the pregnant uterus resulted in greatly increased tension on the wound.

### Operation

Chloroform was the only anaesthetic available and it was decided to anaesthetise in the standing position to lessen the risk of further damage being caused by struggling during casting. Three ounces of chloroform were given as an initial dose and the anaesthesia was continued with 2 oz. doses. Over the 1¼ hours of the operation 6 oz. of chloroform were given. At no time was the anaesthesia deeper than the light stage.

The hair around the wound was then clipped short. The next step was to remove gross particles of dirt from the loop of eventrated bowel. This was found to be rather difficult as the surface was dry and cracked. However, with the aid of swabs and sterile normal saline, most of the dung, etc., was removed. The serous coat of the bowel was found to be ulcerated but still completely viable.

The skin around the part was then swabbed with Harrington's solution and a large sterile cloth with a window was clipped around the part to prevent further contamination during reduction of the hernia and suturing of the rent.

The next step was to reduce the eventrated loop of bowel through the skin wound. Firm even pressure with a saline-impregnated cloth was applied to the loop to reduce the engorgement. Despite fairly prolonged squeezing it was found necessary to enlarge the skin opening at either end with blunt-pointed Mayo scissors before the loop of bowel could be returned through the skin. When this was accomplished a mass of intestines forming a swelling about the size of a rugby football was found lying subcutaneously. An attempt was made to return these loops of bowel into the abdominal cavity with the cow lying on her side, but this was found to be impossible due to the intra-abdominal pressure. It was therefore necessary to turn the cow on to her back, although this greatly increased the risk of respiratory failure from the anaesthetic. When this was done, however, it was found that the herniated bowel could be returned fairly easily.

The rent in the abdominal wall was about 4 in. long and involved mainly the aponeuroses of the external and internal oblique muscles, *i.e.*, mainly fibrous tissue, and only at the proximal end was actual muscle tissue involved. The tissue had tended to split along the direction of its fibres so that the opening was of the gridiron type and was not as large as would be expected. It therefore tended to close itself, although not completely, when the bowel was replaced.

The wound was repaired with a continuous No. 7 catgut suture taking in peritoneum, and aponeuroses of external and internal oblique muscles together. No attempt was made to suture the peritoneum separately, due to the impossibility of securing it. When the continuous suture had been finished four interrupted catgut sutures were inserted in the same line to give added support and to act as a relaxation to the continuous suture. The abdominal fascia was then sutured over the wound using a continuous No. 2 catgut suture. The skin wound was then closed using interrupted strong nylon sutures.

* Presented to the Scottish Metropolitan Division, N.V.M.A., Annual Meeting at Edinburgh, February 23rd, 1949.

During the operation all the exposed tissues, including bowel, were liberally dusted with sterile penicillin-sulphamezathine powder sprayed from an insufflator.

The owner was warned that the cow might rupture the sutures when she rose after the operation. However, she rose within half an hour of its completion and no swelling appeared.

Instructions were given to keep the cow short of food for the next day or two to lessen as much as possible the tension on the sutures.

When seen 18 hours after the operation the cow appeared normal with no rise in temperature and no increase in pulse rate. The wound was dry and there was no evidence of infection. There was a small collection of fluid subcutaneously on the floor of the abdomen in front of the udder—probably peritoneal fluid from a slight leak in the wound.

As a precaution against the possible development of peritonitis, the cow was put on a course of sulphamezathine—initial dose 5 oz. followed by 2 oz. twice daily for three days.

*Course.*—The cow continued to make an uninterrupted recovery and at no period did she show any general signs of ill-health. Her appetite remained good and the owner insisted that she gave more milk after the operation than she had done before. The skin wound healed by first intention, and the skin sutures were removed on the tenth day. When seen just over a week ago all that could be observed was a slight fibrous swelling along the line of the wound.

The main points of interest in the case are that, despite the contamination, the wound healed by first intention and that no evidence of peritonitis was present. It is impossible to say, but it appears doubtful whether the sulphamezathine played any part in preventing peritonitis.

## ABSTRACTS

**[Tuberculosis in a Horse.** POTTER, H. R. (1948.) *Canad. J. comp. Med.* **12.** 334-336.]

In the autumn of 1936 a three-year-old Clydesdale gelding was admitted to the clinic of the Ontario Veterinary College with the following history: normal in growth but of a sluggish disposition, easily fatigued after being broken to work in the spring of 1936, and prone to lose flesh although well fed. Increasing dyspnoea was not relieved by turning the gelding away to grass. On admission to the clinic emaciation was distinct and accompanied by oedematous enlargement of the pectoral region, the anterior abdominal floor and the forelegs. Mucous membranes were pallid and icteric, temperature 100·2°, soft pulse 95, laboured respiration 36.

Thorough auscultation of the thorax revealed only some crepitation in the posterior lobe of the right lung. Heart sounds were clear-cut and distinct. No cough was evident.

After steady regression over two weeks the animal was destroyed and the following *post-mortem* findings were tabulated: the parenchyma of the lungs had been almost completely replaced by fibrous tissue interset with emphysematous alveoli and caseating areas surrounded by fine deposits of lime salts. Miliary tuberculous foci were noted in the liver and omentum and there was evidence of cell infiltration in both kidneys. The lymphatic system generally was involved to an advanced degree.

In comparing these lesions histo-pathologically with those observed in advanced generalised bovine tuberculosis the writer was impressed by the pronounced endothelial cell-proliferation and by the scantiness of calcification.

Intraperitoneal injection of infected material into the hen produced no result clinically or at *post-mortem*, but when administered by subcutaneous route into rabbit and guinea-pig death occurred in four to six weeks from generalised infection (*m. tuberculosis*, var. *bovis*).

J. P.

* * * * *

**[Spirochaetes Associated with Dysentery in Dogs.** CRAIGE, J. E. (1948.) *J. Amer. vet. med. Ass.* **113.** 247-249.]

Spirochaetes, that the author believes should probably be called *Borrelia eurygyrata*, were found in the faeces of 112 dogs, of which 90 were suffering from dysentery, and the organisms appeared to be the only causative agent of the diarrhoea in 71. The 22 apparently healthy dogs were believed to be carriers of the organism. Later, in a random selection of 130 dogs, spirochaetes were found in the faeces of 61, of which 20 were apparently healthy. Similar spirochaetes were found associated with afebrile diarrhoea in six cats. Three cases representing various syndromes in the dog are described.

(*Concluded at foot of next column*)

Sulpha drugs were effective in treating the milder cases, while a combination of streptomycin, penicillin and sulpha drugs gave good results in most of the serious cases. It is suggested that spirochaetes can cause enteritis in dogs, but the frequency with which the organisms were found in the faeces of apparently normal dogs indicates that too much significance should not be attached to their presence.

C. A. E. B.

## REPORT

### Service and Investigations of the Bureau of Records of the Milk Marketing Board

**Report for the year October 1st, 1947 to September 26th, 1948**

In the introduction to this, his second annual report, Mr. Joseph Edwards, Chief of the Production Division of the Milk Marketing Board, states that both the Breed Societies and the Board's A.I. organisation have made increasing use of the Bureau's services; at the same time, National Milk Records have received assistance in their endeavour to provide informative publications (Regional and Annual Reports) and to arrive at still better national standards for herd and cow merit classifications. On such topics as the use of the 430-day Herd Calving Index and the compilation of continuous records for cows, it would be impossible to go far without the statistical background which the Bureau provides.

On the investigational side the main theme—and no single one could be more important—is the dairy bull. Whether he is used by normal mating in a private herd or by A.I. at a cattle breeding centre, he remains the cornerstone of the breeding industry. This report gives many facts about him and perhaps the most outstanding is the evidence that in the industry, as at present organised, very few of his kind have a chance to be properly progeny-tested.

Subsidiary investigations deal with comparisons between the yields of registered and non-registered recorded cattle and with the first stage in study of the effect of age at first calving on milk yield and subsequent performance.

#### Administration

*Number of Records.*—During the year 428,000 lactation records have been received.

| Description of record | Number of records received year ended | |
|---|---|---|
| | October 1st, 1947 | September 26th, 1948 |
| *Pedigree and grading up* | | |
| Ayrshire .. .. | 23,656 | 27,381 |
| Friesian .. .. | 43,971 | 5[illegible],924 |
| Guernsey .. .. | 10,800 | 11,504 |
| Jersey .. .. | 10,669 | 12,327 |
| Red Poll .. .. | 6,876 | 7,199 |
| Shorthorn .. .. | 41,368 | 46,124 |
| Other breeds .. | 8,883 | 4,435 |
| *Total* .. | 146,223 | 159,894 |
| *Non-pedigree* | | |
| All breeds .. .. | 275,237 | 268,509 |
| *Grand total* .. | 421,460 | 428,403 |

All records are readily accessible, but the varying degrees of likely use and of value of individual records are provided for by the filing arrangements.

*The Sire Survey.*—This year (proceeds Mr. Edwards) the main task has been to refer each lactation record to the sire of the animal responsible for that record. This task, which has covered 1946-47 and 1947-48 records, will be carried on automatically for future records and will provide a sound basis for any service of records to those interested in progeny-testing. In particular it will ensure economy and speed in the service of information to the Board's A.I. organisation in regard to bulls on offer and bulls in use at the Board's centres. We should also obtain a better general picture of the use of bulls in milk recorded herds than has been possible hitherto. At present this automatic reference is restricted to the lactation records of registered animals; these account for 35 per cent. of the total animals recorded. The great majority of the remaining 65 per cent. are, however, by pedigree bulls, but the practice of calf-making is not general and there is no way of linking the sire and daughter. The new calf-marking arrangements should go some way to remedy this position and a special arrangement is being made to deal with the progeny of A.I. bulls.

*Continuous Cow Records.*—Consideration has recently been given to the possibility of giving greater emphasis to continuous records as distinct from single lactation records. The Board's National

Advisory Committee is giving this matter close attention and it is hoped to carry a stage further the pioneer work of the Ministry of Agriculture in their inter-war publication "Register of Dairy Cattle."

It is intended that this work should be carried on to provide automatic identification of our long-living, good-yielding cows and to discover how far they transmit these qualities to their daughters.

In all the work already carried out and in the services contemplated, the constant aim is to extend the use of milk records. As successive lactation records of the same animal and successive generations of such animals gradually reduce the relative importance of a single record, our arrangements must march in line. It is clear that no other organisation has similar advantages for handling such large numbers of records. It is only through full co-operation with those interested in the industry who need the service, and by keeping abreast of all new developments to meet these needs, that the administrative machinery of the Bureau can discharge its responsibilities effectively.

### Service of Records

*To the Dairy Breed Societies.*—During the year the Ayrshire Society has been supplied with 25,000 records of registered Ayrshire cows. Negotiations with the British Friesian Cattle Society and also with the British-Canadian Holstein Association have been completed and a full service of records will be made to cover all cattle registered by these two bodies during 1948-49. It is estimated that in the coming year our total service of records will approach the 80,000 mark. A request by the Shorthorn Society for a survey of records for their breed has been satisfactorily met and arrangements have been recently approved for further work on Shorthorn Year Book entries, using the Bureau records to a greater extent than has hitherto been possible.

Close contact has been maintained with other societies and we are confident that at a not too distant date the Bureau will have on hand a service of information to each society according to its particular requirements. There are clear advantages in these arrangements over those involving a Certificate of Record where much inconvenience is caused to members by removal of their registers off the farms.

Mention might be made here of the difficulty which arises in any service of records to Breed Societies owing to the different identification methods between National Milk Records and Breed Societies. While the acceptance of one single identification symbol cannot be foreseen in the near future, it would be helpful if Breed Societies could get their members, particularly those with cows in the Grading Registers, to give full particulars of breeding in the space provided in the Herd Register.

*To the Milk Marketing Board.*—It is through the dissemination of information on milk records on the one hand, and the assistance given to the A.I. movement in its selection of bulls on the other, that the Bureau is directly giving a service to the Board and through the Board to the 160,000 producers of milk. It may be mentioned that some 30,000 of these producers have already joined the Board's A.I. movement and their numbers are increasing rapidly.

The main published information appears in the National Milk Records Reports. The Regional Reports contain records of some 6,000 leading herds and do much to sustain local interest in milk recording. The Annual Report contains a more selective list of herd and cow performances and a summary of the national position. There is little doubt that these reports have helped to make the industry "milk recording conscious." The recent figures of membership have in no way been adversely disturbed by the change of arrangements and rising fees (to meet costs) which occurred last October.

Steady expansion has taken place in the service given by the Bureau to the Board's A.I. organisation in line with the increased demand for bulls for this work. An extended pedigree has been prepared for each of the 700 bulls on offer to the Board during the year, with an average of about 70 records per pedigree. It is interesting to compare this latter figure with about 15 which is the average number of records for bulls appearing in the present-day sales catalogues (for sales of national status).

*To the Ministry of Agriculture and Fisheries.*—We have supplied records to the Animal Breeding and Genetics Research Organisation and full co-operation and assistance has been promised to the Ministry of Agriculture's Veterinary Laboratory at Weybridge in their work on the treatment of mastitis.

We note the increasing use of the Dairy Licence in the Ministry Livestock Improvement Scheme. It is hoped that now the Ministry has accepted the 305-day standard record the scheme will take full advantage of the service of records which is available to it.

### Investigations

*Comparison between Yields of Registered and Non-registered Recorded Cattle.*—In last year's Annual Report of National Milk Records (page 58) an estimate was made of the difference between yields of "pedigree" and "non-pedigree" herds. To overcome the difficulty encountered in that survey of obtaining a satisfactory definition of a pedigree herd, it was decided this year to base the comparison on individual animals rather than on herds. The proportion of registered animals varies widely between county and county. Results for 16 counties[1] distributed throughout the country have been summarised:

| Breed | Proportion of registered animals % | Number of animals and average yield* | | | |
|---|---|---|---|---|---|
| | | Registered | | Non-registered | |
| | | Number | Average yield lb. milk | Number | Average yield lb. milk |
| Ayrshire .. | 43·5 | 7,265 | 7,368 | 9,436 | 6,769 |
| Friesian .. | 42·2 | 10,939 | 8,429 | 14,970 | 7,417 |
| Guernsey .. | 46·7 | 1,743 | 6,820 | 1,988 | 6,152 |
| Jersey .. | 88·7 | 2,439 | 6,176 | 311 | 5,822 |
| Red Poll .. | 69·0 | 1,255 | 6,372 | 564 | 6,313 |
| Shorthorn.. | 34·5 | 11,974 | 6,728 | 22,696 | 6,317 |

* Lactations of less than 230 days are excluded for the purposes of computing this average: the registered group includes pedigree and grading-up animals.

It is on the 150,000 or so registered, recorded cattle that the dairy industry must rely for its breeding stock, and it is on the maintenance of a margin which should be sufficient to denote breeding superiority that this source must be judged.

*The Herd Calving Index: the Effect of the 430-day Limit.*—In last year's Annual (N.M.R.) Report (page 53) it was indicated that the full operation of a 430-day herd calving index would reduce the number of herds eligible for publication by about 18 per cent. to 6 per cent. because of herds for which no calving index could be computed (these are herds composed of heifers only and herds new to recording for which previous calving dates are not available) and 12 per cent. because the calving index computed was more than 430 days. In fact the operation of the 430-day limit for the first time in the 1947-48 report has for the six main breeds had the effect of excluding 475 herds which otherwise would have been included in the list of leading herds.

Their places have been filled by herds which have conformed to the 430-day limit, so that the full number of leading herds (one-third) is still published.

It should be made quite clear that there is no direct relationship between a herd calving index as it is used in National Milk Records' publications and Breed Societies' calving requirements. The latter refer to individual cows and to the *current* calving interval. Most Breed Societies have calving requirement standards in their Merit Schemes; these standards vary between breeds and there are graduated scales within breeds. A limit of around 14 months seems to be the most widely adopted standard and hence the operation of our Herd Calving Index standard of 430 days is unlikely to penalise, by omission from publication, breeders who conform to their own breed standards of calving.

A limit of 430 days is fixed to discourage breeders from leaving cows open for long periods to obtain high yields, but it allows reasonable elasticity to meet the needs of the breeder who may have difficulty in getting some of his cows in calf. The limit is an *average* for the herd, so that it is still permissible for individual cows to have calving intervals of well over 430 days without the herd calving index exceeding the limit.

*Progeny-records of bulls used for A.I.*—The way in which progeny-records are being assembled—in A.I. and non-A.I. herds—has already been described. The Board's A.I. service is still young, so that to date the majority of available progeny-records are those made by daughters sired by our older bulls before their purchase for A.I. The following is a summary of the results for 34 bulls of five breeds:—

[1] The selected counties are: Northumberland, Derbyshire, Staffordshire, Cambridge and District, Leicester, Rutland, Warwickshire, Monmouthshire, Worcestershire, Denbigh and Flintshire, Merioneth, Brecon and Radnor, Carmarthen, Oxford, Dorset, Devon, Hertfordshire. The more localised breeds—Guernsey, Jersey and Red Poll—are consequently not so well represented as the other three.

PROGENY RECORDS OF BULLS STANDING AT THE BOARD'S A.I. CENTRES

| Breed | Number of bulls | Summary of daughter records | | | |
|---|---|---|---|---|---|
| | | Designation | Number of records | Average Milk yield (lb.) | Average Fat (%) |
| Ayrshire .. | 7 | 1st (heifer) lactation | 128 | 7,942 | 3·90 |
| | | 2nd lactation | 71 | 8,355 | 3·73 |
| | | 3rd „ | 26 | 8,259 | 3·75 |
| Friesian .. | 11 | 1st (heifer) lactation | 129 | 7,820 | 3·55 |
| | | 2nd lactation | 55 | 8,127 | 3·52 |
| | | 3rd „ | 12 | 9,483 | 3·56 |
| Guernsey .. | 3 | 1st (heifer) lactation | 19 | 6,869 | 4·48 |
| | | 2nd lactation | 10 | 6,779 | 4·68 |
| | | 3rd „ | 4 | 7,237 | 4·34 |
| Jersey .. | 3 | 1st (heifer) lactation | 58 | 5,691 | 4·99 |
| | | 2nd lactation | 40 | 6,650 | 4·94 |
| | | 3rd „ | 17 | 7,112 | 5·07 |
| Shorthorn .. | 10 | 1st (heifer) lactation | 168 | 6,732 | 3·68 |
| | | 2nd lactation | 89 | 7,482 | 3·61 |
| | | 3rd „ | 51 | 8,252 | 3·57 |

This summary indicates a quality above the average for all recorded herds and substantially above the average for the national herd.

*The Bull Population in England and Wales.*—Ministry of Agriculture statistics show that substantial changes have occurred in recent years. There are now three types of licence (Dairy: Beef: General) under which classifications may be made. The position for 1947-48 is as follows:—

NUMBER OF BULLS LICENSED IN 1947/48—ALL BREEDS
(Ministry of Agriculture and Fisheries)

| Region | General licence | | Dairy licence | Beef licence | Total | |
|---|---|---|---|---|---|---|
| | Number | % | % | % | % | Number |
| 1. Northern* .. | 79·8 | | 16·1 | 4·1 | 100·0 | 7,571 |
| 2. North-Western | 61·6 | | 37·5 | 0·9 | 100·0 | 3,496 |
| 3. Eastern .. | 42·8 | | 36·2 | 21·0 | 100·0 | 2,625 |
| 4. East Midland | 48·9 | | 35·7 | 16·3 | 100·0 | 2,239 |
| 5. West Midland | 40·6 | | 22·5 | 36·9 | 100·0 | 2,956 |
| 6. North Wales .. | 77·5 | | 17·5 | 5·0 | 100·0 | 1,974 |
| 7. South Wales .. | 59·5 | | 29·8 | 10·7 | 100·0 | 1,416 |
| 8. Southern .. | 47·1 | | 47·5 | 5·4 | 100·0 | 2,406 |
| 9. Mid-Western | 53·4 | | 42·4 | 4·2 | 100·0 | 3,163 |
| 10. Far Western .. | 70·8 | | 11·4 | 17·8 | 100·0 | 1,646 |
| 11. South-Eastern | 54·6 | | 36·7 | 8·7 | 100·0 | 2,822 |
| *All regions* .. | 60·3 | | 29·2 | 10·5 | 100·0 | 32,375 |
| 1946/47 .. | 65·2 | | 23·4 | 11·4 | 100·0 | 30,297 |

* Includes the three Ridings of Yorkshire.

The use of the Dairy Licence is obviously expanding and in areas where the recording tradition is strong as, for example, in the Southern Region, 47·5 per cent. of the licences issued are in this category. There is, however, still plenty of room for improvement, for the great majority of bulls that are licensed are used in dairy herds, whereas those with the dairy qualifications were last year only 29·2 per cent. of the total.

The potential supply of fully pedigreed bulls for licensing has increased in recent years, as is shown in the following table in which, for six breeds, the registrations in 1938 and 1947 are compared. In the table the number of bulls licensed in the same years is also given, so that a comparison between registrations and licences can be made.

ESTIMATED PROPORTION OF BULLS REGISTERED TO BULLS LICENSED
(ENGLAND AND WALES)

| Breed | Pre-war: 1938 | | | Post-war: 1947 | | |
|---|---|---|---|---|---|---|
| | Number of bulls licensed | Number of male herd book registrations | Registrations to licences (%) | Number of bulls licensed | Number of male herd book registrations† | Registrations to licences (%) |
| Ayrshire | 489 | 181* | 37·0 | 2,837 | 2,872 | 101·2 |
| Friesian | 2,671 | 1,147* | 42·9 | 8,285 | 3,125 | 37·8 |
| Guernsey | 1,924 | 751 | 39·0 | 1,549 | 1,378 | 89·0 |
| Jersey | 545 | 542 | 100·0 | 836 | 811 | 97·0 |
| Red Poll | 569 | 332 | 58·3 | 587 | 512 | 87·2 |
| Shorthorn | 23,730 | 4,564* | 19·2 | 13,430 | 5,711 | 42·5 |
| *Total* | 29,928 | 7,517 | 25·1 | 27,524 | 15,684 | 57·0 |

* These numbers for England and Wales are estimated registrations using Dr. H. P. Donald's pre-war proportion of registrations according to county of origin (Ayrshire 10 per cent.; Friesian 85 per cent.; Shorthorn 70 per cent.).

† These numbers for England and Wales have been estimated from the total registrations on the basis of the proportion of members in England and Wales to total membership.

In 1947, 15,684 pedigree bulls were registered compared with 7,517 in 1938. This promises, for all concerned, a much wider field for bull selection in the future. With the exception of Friesians and Shorthorns the proportion of registrations to licences suggests that, in the main, the bulls of the breeds are from pedigree herds (for Ayrshires it is obvious that there is an additional supply from across the Border).

The facts that for Friesians there are approximately 3,000 bulls registered and 8,258 "Friesian" bulls licensed and, for Shorthorns, the corresponding figures of 5,700 and 13,430, support the view that there must be large numbers of masqueraders.

*The Bull and the Number of his Recorded Daughters.*—Breeding by the progeny-tested bull is recognised to be at least as sound a system as any and, among calculations of the minimum number of daughters needed to give a reliable test, none is lower than ten; others put the figure at 20. Given the kind of planned progeny-testing and improved calf-marking which we have in mind, these numbers, for young bulls used for A.I., should easily be attained. For some time to come, however, private breeders and buyers of A.I. bulls will have to find at least some progeny-tested bulls in private herds; a "census" of the number of recorded daughters by dairy bulls (taken during the compilation of the sire reference index already referred to) gives the following results:—

| Breed | Bulls | Number of recorded daughters a bull | | | | | Total | Total number of daughters | Average number of daughters a bull |
|---|---|---|---|---|---|---|---|---|---|
| | | 1–4 | 5–9 | 10–14 | 15–19 | 20 and over | | | |
| Ayrshire | No. | 3,107 | 833 | 326 | 158 | 296 | 4,720 | 27,049 | 5·7 |
| | % | 65·9 | 17·7 | 6·9 | 3·3 | 6·2 | 100·0 | | |
| Friesian | No. | 4,181 | 1,323 | 711 | 348 | 587 | 7,150 | 48,886 | 6·8 |
| | % | 58·5 | 18·5 | 10·0 | 4·9 | 8·1 | 100·0 | | |
| Guernsey | No. | 1,928 | 452 | 182 | 95 | 101 | 2,758 | 12,938 | 4·7 |
| | % | 69·8 | 16·4 | 6·6 | 3·5 | 3·7 | 100·0 | | |
| Jersey | No. | 1,717 | 523 | 213 | 117 | 85 | 2,655 | 13,386 | 5·0 |
| | % | 64·7 | 19·7 | 8·0 | 4·4 | 3·2 | 100·0 | | |
| Red Poll | No. | 820 | 260 | 95 | 54 | 86 | 1,315 | 7,554 | 5·8 |
| | % | 62·3 | 19·8 | 7·2 | 4·1 | 6·6 | 100·0 | | |
| Shorthorn | No. | 3,970 | 1,176 | 522 | 267 | 378 | 6,313 | 36,811 | 5·8 |
| | % | 62·9 | 18·6 | 8·3 | 4·2 | 6·0 | 100·0 | | |
| Total | No. | 15,723 | 4,567 | 2,049 | 1,039 | 1,533 | 24,911 | 146,624 | 5·9 |
| | % | 63·1 | 18·3 | 8·2 | 4·2 | 6·2 | 100·0 | | |

NOTE: These figures include a proportion of old bulls which have given their main crop of daughters before 1946, and some young bulls by which only the first few daughters milked in this period.

It will be seen that the average number of daughters a bull is 5·9 and that about 80 per cent. of the pedigree bulls used in recorded herds have less than ten recorded daughters: this means that an effective progeny-test can therefore be carried out on only a small proportion of bulls. It is suggested that if the private pedigree breeder wishes to gain the most from the progeny-test system of breeding he, as well as the A.I. movement, will have to plan for it. Where breeding herds are small there is much to be said for increasing the scope by co-operation among breeders using the same strains.

*Age at First Calving.*—The age at first calving is influenced by a number of factors, such as breed, size for age (rate of growth) and the season at which the heifer's milk is required. The heifer which calves too early is thought to run the risk of being permanently stunted in size while, on the other hand, recent evidence suggests that heifers which are put late to the bull have difficulty in conceiving. As to the economics of milk production, it is obviously an advantage to save six months' time or more in starting the heifer off on her productive life if it can be shown that this early gain is not lost or more than lost in her later performance.

Custom plays a big part in this matter and the first step in analysing it is to see what the custom is. A first sample of 8,216 heifer records (pedigree and grading-up) gives the following results:—

| | Number of heifers | Average age at first calving |
|---|---|---|
| Jersey .. .. | 795 | 2 years 5 months |
| Guernsey .. | 826 | 2 „ 8 „ |
| Ayrshire .. | 1,261 | 2 „ 9 „ |
| Friesian .. | 2,314 | 2 „ 11 „ |
| Shorthorn .. | 2,514 | 3 „ 0 „ |
| Red Poll .. | 506 | 3 „ 0 „ |
| *Total, six breeds* | 8,216 | 2 „ 10 „ |

(Histograms and a regional distribution (by breed) are given in an Appendix Table.)

Among the breeds, Shorthorns show the greatest uniformity in age at first calving and Guernseys the least.

What is perhaps the most interesting feature is the evidence that custom is as important as climate. One might expect heifers, at least among the heavier breeds, to calve later in the north than in the south, but in the sample studied there is no difference among Ayrshires, and with Friesians and Shorthorns the opposite is the case. The following are the results in the Northern and South-Eastern Regions:—

| Breed | Average all Regions | Northern Region* | South-Eastern Region |
|---|---|---|---|
| Ayrshire .. | 32·8 | 33·? (114)* | 33·2 (340) |
| Friesian .. | 34·5 | 31·9 (271) | 36·4 (485) |
| Shorthorn | 35·9 | 35·7 (351) | 36·5 (375) |

* Figure in brackets is number of heifers in group.

This investigation is to be continued to study the effect of age at first calving in yield and fat per cent. not only on the heifer lactation but on subsequent yields. The analysis is not straightforward, for later yields may depend not only on this first factor but also on the amount of rest given at the end of the heifer lactation and the heifer's age at her second calving.

## REVIEWS

**[Dairy Farming Annual.** (1948.) Published by Massey Agricultural College, New Zealand. Price 10s.]

This attractive looking book is the College's first annual publication for dairy farmers. Its contents include the addresses and discussions at the first post-war three-day gathering of 400 dairy farmers held at the College. The book covers, with illustrations, a wide field of modern research work with a direct bearing on practical dairy farming, much of which is of equal interest outside New Zealand. The articles are contributed by many well known agricultural experts in New Zealand.

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**[" The Veteran."** (Glasgow Veterinary College Magazine.) Vol. 1, No. 3, Spring, 1949.]

The third issue of " The Veteran," the official magazine of the Glasgow Veterinary College, is again well up to the standard we have come to expect from this newest recruit to the ranks of veterinary periodicals. A thought-provoking foreword by Professor Thos. Dalling introduces several very interesting articles from other well known veterinarians, including a pen-picture of veterinary practice in Holland by Dr. E. J. Voute, and a useful contribution on feline practice by Major Hamilton Kirk. Dr. J. Anderson writes informatively on climatic factors and reproduction in cattle, and Mr. R. E. Glover on the supervision of laboratory animals by the veterinary profession, while Professor Worden considers the relationship of U.F.A.W. to scientific research and the profession.

## AN ANTISERUM FOR USE IN CASES OF SNAKE-BITE

In this country it occasionally happens that a dog or other domestic animal is bitten by an adder, and it may not be generally known that a stable antidote is available. The Pasteur Institute, of Paris, prepare an antiserum for human and veterinary use against the venom of all European snakes. The serum is obtained from immunised horses. It may be given subcutaneously, though the intravenous route is, of course, preferable, especially in cases where treatment has been delayed. The dose—as for an adult person or child—is 10 c.c., and this may safely be repeated as necessary. This antivenom serum is stated to remain fully active and unimpaired, under all climatic conditions, for upwards for four years. London agents are Messrs. Allen and Hanbury.

For dressing the wound, the Institute recommends irrigation with a fresh solution of calcium chloride (2 per cent.), which neutralises any remaining venom in the wound.

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The Co-operative Party conference passed unanimously a resolution calling for a Government investigation into the manufacture and sale of proprietary medicines. It is proposed that there should be price control of preparations of proved value and that worthless preparations should be suppressed.

## Quarterly Meeting of Council, N.V.M.A.

### Summary of Proceedings

At its meeting held in the Connaught Rooms, W.C.2, on April 22nd, with the President, Dr. R. F. Montgomerie, in the chair, the Council of the Association was concerned almost exclusively with the great volume of work reported on by the committees. Their effective handling of the many important issues now before the N.V.M.A., together with innumerable minor matters, was reflected in the expeditious passage of business and warmly acknowledged—to the Chairmen and members of committees and the General Secretary and his staff—at the close of proceedings.

The brief preliminaries included a tribute to the late Major Oxspring for his pioneer work in the radiography of the horse and in the realm of veterinary literature in the founding of one of the most vocational of our periodicals, the Journal of the R.A.V.C; also the pleasing intimation that the Association's membership, at 3,285, is now within five of the record figure established in the summer of last year—sufficiently long-term refutation of the prophets of disaster when the decision was taken to double the subscription. The inclusion of the name of Professor W. I. B. Beveridge, Professor of Animal Pathology at Cambridge, among the 76 new members elected, is of some historical significance, inasmuch as this distinguished Honorary Associate is the first elected member of those who now become eligible in consequence of their inclusion in the Commonwealth and Colonial List of the Royal College of Veterinary Surgeons.

To outline the major features of approved committee work, the remarkable spate of " animal " legislation which it is the desire of private members to promote and to which much parliamentary time has been devoted thus far in the year, has been a major concern of the Parliamentary and Public Relations Committee, which recommended that public statements of the Association's policy relating to matters coming before Parliament, might be made in full consultation with the President on similar occasions in future. Tribute was paid to the great service rendered by Commander Powell, the Association's Parliamentary Agent, in this connection, and also (on his report on Press publicity) to the Liaison Secretary, for his success in securing acceptance, under difficult conditions, for his numerous contributions on matters relating to the profession. A plea was made, however, for the establishment of a yet closer liaison with scientific bodies and journals " at our own level." Consideration has been given by this committee to correspondence in *The Veterinary Record* and its effect on external relations. Generally speaking, the committee agrees with the policy of giving the widest latitude to members in correspondence to be published in the *Record*, " but insists that letters which may have an adverse effect on the external relations of the profession continue to be published in the Supplement." This is to appear as frequently as possible, the words " Confidential to Members of the Association " to be printed at the top right hand corner of the front page of each issue.

### Animal Disease Control

Council confirmed the line that the Veterinary State Medicine Committee proposes should be taken by the Association's representatives at the forthcoming tripartite meetings (with the Ministry of Agriculture and the National Farmers' Union) on the future of the Scheme for the Control of Certain Diseases of Dairy Cattle, namely the difficulty in formulating a scheme applicable on a country-wide scale. Meantime, continuation of the present contracts—with private modifications agreeable to the individual parties concerned—is recommended. Two further points were emphasised by the President—that no proposals are afoot for the introduction of schemes for the control of particular diseases, and that any new proposal will be laid before the Divisions for their views.

A further Memorandum from the Ministry on the subject of the eradication of bovine tuberculosis, with special reference to the area eradication scheme, is under discussion with that body. The President informed Council of the acceptance of the Association's main contentions, namely, that the process of herd by herd eradication throughout the country meantime should not be neglected, emphasis continuing to be laid on the extension of the voluntary attested herd scheme, and that the Ministry should reconsider the introduction of free and survey testing. The N.V.M.A. could look ultimately to a fairly high level of satisfaction in that they had the assurance that L.V.Is. would largely be used in the testing of cattle in the " coming on " and eradication areas. No date had been arranged for the coming into operation of the area eradication scheme, as a number of arrangements remained to be made.

### Inspection for the Licensing of Stallions

The Association still are very concerned about the new procedure introduced by the Livestock Division in regard to inspection for the licensing of stallions, despite the recent modification whereby a veterinary surgeon can carry out his inspection separately from the livestock officer, if more convenient for him to do so, before the date arranged for the joint inspection, but without notice to the stallion owner. The Breed Societies were supporting the Association in its contention that the veterinary surgeon should be the authority to report on conformation—leaving type to be covered by a nominee of the Society concerned—and when all replies to the enquiries made of them by the N.V.M.A. had been received, it was hoped that the present unnecessary and wasteful procedure of dual examination would be terminated.

### Treatment of Animals of the Poor

The N.V.M.A.–R.S.P.C.A. agreement in the matter of clinics is to remain in force, subject to certain mutually accepted modifications, and an endeavour is being made to expedite decisions, for transmission to headquarters, R.S.P.C.A., on the establishment of new clinics, as and when these are proposed by the Society.

Other interesting items in the report of the Organising Committee were the decision to accept the invitation of the Animal Health Trust to explore their proposed Hospital and Diagnostic service; also to appoint a new committee to review and revise the Report on Small Animal Euthanasia published by the Association in 1937. The Association having been invited by the Kennel Club to express its views on cropping the ears of Boxers, this matter has been considered by the Organising Committee, who forwarded the following recommendation to Council, by whom it was accepted: "That the cropping of the ears of Boxers be strongly deprecated by the Association and that veterinary surgeons be advised against performing this operation."

### Civil Service Remuneration

Arising out of references in the report of the Home Appointments Committee to the recommendations contained in the Report of the Chorley Committee on Higher Civil Service Remuneration, the Association of State Veterinary Officers is to be asked to review the changes which have influenced the salary position of whole-time officers of the Ministry, with particular reference to that of the Chief Veterinary Officer, as from the date of the close of the previous negotiations, and to regard the matter as one of urgency.

### Conditions of Employment of Young Graduates

The Council supported the President and other officers in the action taken in connection with letters on the conditions of employment of young graduates submitted for publication in *The Veterinary Record*. An endeavour is to be made to collect information on these conditions and, as a step in that direction, advertisers of posts are to be urged to state the salary or range of salary they are prepared to offer. Where such salaries appear to be unduly low, the Officers are empowered to make enquiries.

### The Congresses

A welcome notification, in the report of the General Purposes and Finance Committee, that an endeavour is being made to render the bomb-damaged N.V.M.A. Headquarters at least presentable to the great influx of distinguished overseas visitors to the XIVth International Veterinary Congress, links up with the report of the Provisional Committee for the Association's annual gathering to be held in conjunction therewith from August 12th to 15th (inclusive), the "International" starting on August 8th.

The provisional programme of papers to be presented at these congresses received publication in our issue of May 7th, and it will be noted that as the Permanent Committee of the I.V.C. has decreed that the master subject of this year's meeting shall be "The Role of the Veterinary Profession in the Production of Food for Human Consumption," it has been decided to concentrate the interest of the Association's Congress on clinical subjects, especially those of interest to practitioners in the small-animal field. There has been a good response to the invitation to present papers and it seems that it may be necessary to have several simultaneous sessions, for which accommodation has been reserved at the Central Hall, Church House and Up School, Westminster, through the collaboration of the "International." In addition, a number of demonstrations well be held at the Royal Veterinary College on August 15th, and details of these, as of the Association's own social functions, will be published in due course. The Waldorf, Aldwych, W.C.2, is to be regarded as the headquarters hotel. Members are strongly advised to book their rooms in London early, and if necessary to seek the assistance of Messrs. Thos. Cook and Son, who are acting as official agents for the International Congress.

Selecting further items for preliminary mention, we note that the Minister of Agriculture, following upon the receipt of a Memorandum formulated largely by the N.V.M.A., has indicated that the possibility has been explored of making a start on the control of the production of veterinary biological products by dealing with the question of purity, leaving standardisation to be dealt with later. Discussions with the various bodies concerned will precede the Minister's decision to proceed with the making of an order on the lines which the signatories of the Memorandum have in mind.

### Control of Distribution of Biological Products, Etc.

The Council of the Association noted that discussions were proceeding with the Pharmaceutical Society, in which the R.C.V.S. were a party, towards agreement that certain biological and chemotherapeutic agents used in veterinary practice be restricted in their supply by chemists to sale to veterinary surgeons or on their prescription. It was also noted—and with great satisfaction—that Messrs. Boots had announced a sales policy to become operative from March 1st, 1949. From that date, the sale of their veterinary biological products—except those used for sheep and poultry—and of all natural and synthetic hormones for veterinary use, would be restricted to the veterinary profession or to persons presenting prescriptions issued by members of the profession. It was accepted that this was in line with the policy of the N.V.M.A. and it was agreed that a letter be addressed to Messrs. Boots expressing appreciation of their action.

Instances in which a firm engaged in the distribution of veterinary products to farmers had requested veterinary surgeons to sign orders for penicillin so that supplies become legal have been brought to the notice of the General Purposes Committee. The attention of the R.C.V.S. has been drawn to these and the Pharmaceutical Society also is to be informed and asked to take appropriate action.

At the close of one year's working of the current arrangements for the payment of expenses of representatives of divisions serving on Council and committees of the Association, these are to be reconsidered in the light of certain proposals received from Divisions.

As was anticipated by *The Veterinary Record* Improvement Subcommittee in recommending the formation of an Executive Committee, the conduct of routine business has been expedited very materially, and the system is to be continued. The Editorial Committee has decided upon the re-introduction, at the half year, of the larger type in use prior to the war, for "general" and "clinical" articles, and to dispense altogether with the smallest type both in the *Record* and the Supplement. A "Foreign News" column is to be introduced into the journal.

The meeting terminated with an earnest expression of the hope that the next quarterly meetings of Council and committees, to be held in Edinburgh in June, will receive a greater measure of support from Southern members than has been forthcoming in the past.

## QUESTIONS IN PARLIAMENT

### Milk (Scotland)

Sir W. Darling (April 26th) asked the Secretary of State for Scotland if he is satisfied that existing pasteurisation plants for milk in Scotland have proved satisfactory; how many such plants there are; and what percentage of milk sold to the public is tuberculin-tested, pasteurised and natural.

Mr. Woodburn: There are 100 pasteurising or heat-treatment plants in Scotland. The milk from these is tested fortnightly and the results generally are satisfactory. Of the milk sold off Scottish farms, some 70 per cent. is from tuberculin-tested herds. Milk as sold to the public comprises approximately 10 per cent. sold as "T.T.," 70 per cent. pasteurised or heat-treated, and 20 per cent. sold as ordinary milk, non-pasteurised.

### Cattle Transport and Slaughter

Mr. Charles Smith (May 2nd) asked the Minister of Food whether he has considered the report of court proceedings at Colchester at which fines were imposed for unnecessary suffering caused to cattle, and the associated material on the subject forwarded to him; and whether he is satisfied that, as the result of his conversations with the Ministry of Food, the arrangements for slaughtering made by his Department are such as to prevent the unnecessary transport of animals over long distances in circumstances in which suffering may be caused.

Dr. Summerskill: I have seen the report and I deplore the occurrence. I am satisfied that this incident was isolated and that the arrangements for transport and slaughter are adequate if properly carried out.

### Flour (Extraction Rate)

Mr. Thornton-Kemsley (May 4th) asked the Minister of Food whether, having regard to the urgent need for increasing the home production of meat, he is now prepared to consider reducing the extraction rate of flour from 85 per cent. to 82½ per cent., thus producing an extra 150,000 tons of feeding-stuffs, which is equivalent to 25,000 tons of pork, bacon and fats, whilst at the same time improving the baking and keeping qualities of the loaf.

Mr. Strachey: The possibility of lowering the extraction rate depends on the supply of wheat and on whether it is on balance better to use our available foreign exchange to buy increased amounts of wheat or of coarse grains in order to maintain or increase the animal feeding-stuffs ration.

### Animal Feeding-stuffs

Mr. Hurd (May 4th) asked the Minister of Food the quantity and cost of the pigmeat to be imported from the United States of America this year and if at the same time coarse grains are to be imported on Marshall Aid account to make possible an immediate increase in the issue of feeding-stuffs to pigs here so as to avoid such extravagant use of dollars in the future.

Mr. Strachey: The import programme of animal feeding-stuffs for 1949-50 has not yet been settled, but as I have already stated, it may well include some dollar as well as non-dollar feeding-stuffs. We are in fact already shipping some United States maize to this country. I cannot agree that our present purchase of pigmeat in the United States represents an extravagant use of dollars.

### Dog Licences (Convictions)

Dr. Broughton (May 5th) asked the Financial Secretary to the Treasury the total number of convictions in England and Wales in January, February, March and April, 1949, for keeping a dog without licence; if he will give an estimate of the number of cases in which this was the result of dog owners not realising that a licence taken out in any month becomes due for renewal on January 1st; and if he will consider allowing dog licences to remain valid for 12 months from the date of issue.

Mr. Glenvil Hall: In reply to the first part of the Question, the figures for 1949 are not available, but the number of convictions for the first four months of 1948 was 5,409. In reply to the second part, it is not possible to make an estimate. The answer to the last part is "No": the proposal would require legislation, which I am not prepared to recommend.

Dr. Broughton: While thanking my right hon. Friend for the information he has given, might I ask whether he will be prepared to reconsider his decision if I send him particulars of recent cases in Batley which suggest confusion in the minds of some dog owners, expense and embarrassment for some of them, and unnecessary waste of time of the police?

Mr. Glenvil Hall: I am always willing to examine any cases which my hon. Friend cares to send me.

Mr. D. Marshall: In giving his answer the right hon. Gentleman must have given consideration to the cost involved in the last part of the Question. What would the cost, or an estimate of it, be?

Mr. Glenvil Hall: I have answered that. I said that it is impossible to make an estimate.

Mr. Joynson-Hicks: Will the right hon. Gentleman say why he is unable to recommend the proposal in the last part of the Question, as it would be administratively convenient in accordance with modern practice, and for the benefit and comfort of the community at large?

Mr. Glenvil Hall: We have had no complaints, and so far as we know the law as it stands is well understood.

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### XIVth International Veterinary Congress

Provisional Programme* Corrigenda

Plenary Meetings

Professor H. C. Bendixen. The Veterinary Profession's Contribution to the World's milk Supply.

Addendum

Section 1. (c)

U.K. G. B. S. Heath, J. A. Campbell. The Control of Sheep Tick—*Ixodes Ricinus*, L. and Blow Flies—*Calliphorinae*.

* *Vet. Rec.* **61.** 247-250.

# NOTES AND NEWS

### Diary of Events

May 16th.—R.C.V.S. Pharmacology, etc., Examination (Revised Syllabus). Written, 10 to 12 noon, at appropriate Colleges.

May 17th.—Spring Meeting of the Eastern Counties Division, N.V.M.A., at Colchester (Red Lion Hotel), 2.15 p.m.

May 20th.—Special General Meeting of the South Wales Division, N.V.M.A., at Carmarthen (Dolwar Café), 2 p.m.

May 26th.—Meeting of the West of Scotland Division, N.V.M.A., Clinical Club, at Glasgow Veterinary College, 7.30 p.m.

May 26th.—Annual Meeting of the Southern Counties Division, N.V.M.A., at Winchester, 6 p.m.

May 27th.—Annual Meeting of the Welsh Branch, N.V.M.A., at Newtown (Bear Hotel), 2 p.m.

May 27th.—Meeting of the Royal Counties Division, N.V.M.A., at Reading (Caversham Bridge Hotel), 2.30 p.m.

May 27th.—Annual Meeting of the R.A.V.C. Golfing Society, at North Hants Golf Club, Fleet, 10 a.m.

May 28th.—Meeting of the Society of Women Veterinary Surgeons at Bath (The Red House), 2 p.m.

June 1st.—Annual General Meeting of the Victoria Veterinary Benevolent Fund, at 10, Red Lion Square, W.C.I, 10.30 a.m.

**June 1st (Wednesday).—Annual General Meeting of the Royal College of Veterinary Surgeons.**

**June 1st, 2nd and 3rd.—Quarterly Meetings of Council, R.C.V.S.**

June 7th and 8th.—D.V.S.M. Written Examination, Royal (Dick) Veterinary College, Edinburgh.

June 9th.—Joint Summer Meeting of the Sussex and South-Eastern Divisions, N.V.M.A., at Frant (Veterinary Research Station, Ely Grange), 2.30 p.m.

June 10th.—Annual Dinner of the R.A.V.C. Officers' Club (Grosvenor House, W.).

June 16th.—Summer Meeting of the Lancashire Division, N.V.M.A., at the County Institute of Agriculture, Hutton, nr. Preston.

June 23rd and 24th.—R.C.V.S. Membership Written Examination.

**Aug. 8th to 13th.—Fourteenth International Veterinary Congress, Central Hall, Westminster, and Church House, Westminster, London, S.W.1.**

**Aug. 12th to 15th.—Sixty-seventh Annual General Meeting and Congress, N.V.M.A., in London.**

### June Meetings of N.V.M.A. Council and Committees in Edinburgh

The attention of members concerned is drawn to the following programme of meetings to be held in the Royal (Dick) Veterinary College, Edinburgh, on Wednesday, Thursday and Friday, June 22nd, 23rd and 24th, in order that they may make their arrangements in good time.

June 22nd.—Organising Committee, 2 p.m.; Home Appointments Committee, 4 p.m.

June 23rd.—Veterinary State Medical Committee, 10 a.m.; General Purposes and Finance Committee, 2 p.m.

June 24th.—Parliamentary and Public Relations Committee, 10 a.m.; **Meeting of Council,** 11.30 a.m.

June 21st to 24th.—Highland Agricultural Society's Show at Dundee.

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## Field Trials in the Control of Bovine Mastitis

During the past two years the results of experiments at the Weybridge Laboratory and in some 60 herds within a short distance of the laboratory have shown the value of penicillin in controlling and eradicating *Str. agalactiae* infection from cows' udders. Different doses of penicillin injected into the udder through the teat canal have been used and the number of injections and the interval between them has been varied in different herds. It may be said that, on the whole, the results have been satisfactory, although in some herds repeated treatment of individual cows has been necessary.

The stage in the investigations has been reached when the application of the method of treatment is to be attempted on a larger scale and modifications of the method are to be studied from the point of view of economy and practicability. As a beginning arrangements have now been made for this extended trial to be

carried out in Surrey. Surrey has been chosen for its proximity to the laboratory.

Several hundred herds have been selected at random: they comprise attested, T.T., accredited and non-designated herds in about equal numbers. The farmers concerned are being asked to collaborate in the trials and the Ministry's field and laboratory staffs and the farmers' practising veterinary surgeons will participate. Following a visit by a member of the Ministry's field staff, who will explain the scheme to the farmer, and the examination at the laboratory of milk samples from all the lactating cows and heifers in the herd, the farmer's veterinary surgeon will be contacted and will be asked to carry out the prescribed treatments and give advice for which he will receive fees from the farmer. When further treatments are necessary, as shown by further bacteriological examination of milk samples, the farmer's veterinary surgeon will do the necessary work.

The trials will allow for different methods of treatment, including the use of any new preparation which might become available.

The duration of the trials will depend upon circumstances, but will certainly last for at least a year. At a later date it is probable that the trials will be extended to other areas of the country.

By carrying out these field trials, two objectives will have been attained: (*a*) information on the incidence of the various infections of the udder, and (*b*) the most practicable and economic method of controlling and eradicating bovine mastitis on a large scale.

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## PERSONAL

*Births.*—Alexander.—On April 21st, 1949, at Guildford, to Mary Alexander, B.Sc., M.R.C.V.S. (*née* Purkis) wife of F. C. Alexander, M.R.C.V.S., Cannock, Staffs, a sister for Robert.

Cabban.—On April 27th, 1949, at the Norfolk and Norwich Hospital, to Pamela, wife of Major Kenneth E. Cabban, M.R.C.V.S., The Old Rectory, Scole, Norfolk, a son.

Gambles.—On April 5th, 1949, at the Plateau Hospital, Jos, Nigeria, to Margaret, wife of R. M. Gambles, Colonial Veterinary Service, Robin Paul, a brother for Jonathan.

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## R.C.V.S. OBITUARY

Campbell, Duncan Stevenson, Veterinary Inspector, Ministry of Agriculture and Fisheries. Graduated Glasgow, July 17th, 1937. Died at Biarritz, as the result of an accident, May, 1949.

Rees-Mogg, Graham Beauchamp Coxeter, O.B.E., J.P., F.R.C.V.S., Veterinary Lt.-Col. late Royal Horse Guards, of Clifford Manor, Stratford-on-Avon, Warwicks. Graduated London July 20th, 1906; Fellowship January 31st, 1914. Died May 4th, 1949; aged 67 years.

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## Veterinary Lieut.-Colonel Graham Rees-Mogg

Lieut-Colonel Graham Beauchamp Coxeter Rees-Mogg, O.B.E., F.R.C.V.S., whose sudden death from coronary thrombosis on May 4th has been announced, was a very distinguished figure inside and outside his profession.

Educated at Haileybury, he graduated as a veterinary surgeon in London, 1906, and joined the Army Veterinary Corps in 1907. He transferred to the 1st Life Guards as Veterinary Officer in 1912 and to the Royal Horse Guards as Veterinary Captain in 1922, serving with the Regiment until his retirement as Veterinary Lieut.-Colonel in 1936.

Colonel Rees-Mogg served his country with credit and distinction both in the Service and afterwards. In the European War of 1914-18 he was thrice mentioned in despatches. He always took the greatest interest and gave support in professional matters, and was a regular attendant at meetings whenever he could get there, his election to the Presidency of the Central Veterinary Society in 1924 being a source of much gratification to him. His great kindness and outstanding charm of manner will always be remembered.

He was a very successful breeder of pedigree Friesian dairy cattle at his home near Stratford-on-Avon. He found time to interest himself in the affairs of his county, of which he was High Sheriff in 1941. He was also a Governor of St. Bartholomew's and Royal Northern Hospitals.

In 1922 he married Kathleen, younger daughter of the late Sir Frederick Wills, Bart., and the recent death of his dear wife was a very heavy load of sadness for him, having, no doubt, considerable effect on his health.

The profession mourns the loss of this charming and distinguished figure, who always set such a fine example by his unselfish desire to help others in all spheres of life, and we tender our sympathy to his relatives in their bereavement.

### A Tribute

Dr. J. T. Edwards writes: Rees-Mogg's sudden death deprives the profession of a notable figure. Only a few days ago I had a touching letter from him testifying to his loneliness after the death of his wife, one of the Wills heiresses, to whom through long years of invalidism, courageously borne, he had been devotedly attached. He was a friend, in the sense that he was a man who, while tolerant to all, gave firm friendship to those who conformed with his own high ideals of conduct. And, he was a friend always and above all to his own profession and devoted to its lore, however exalted were his daily social contacts, whether through living freely throughout his career in the exclusive social circle of the Guards or in the plenitude of wealth on his estate at Clifford Manor, Staffordshire, which county he had served in the office of High Sheriff. A man of deep religious feeling and a good churchman, he was endowed with unshakeable courage in deciding issues on moral principles and then acting unswervingly on his decisions. Hence, he was an intimate friend of the present Prime Minister, Mr. Attlee, having been school friends together, and though they had drifted to opposite poles in party politics, Rees-Mogg would hear no adverse criticism of the Prime Minister, because he possessed the one quality that commended him whatever else was said, namely, that he was a "good churchman." He had also been a good friend of the M'Fadyean family. Like all who are by nature aristocratic, he was no snob, and in his regiment he was well known to have brushed aside even those who carried the highest titles in the land if he believed their behaviour did not conform with his own moral standards.

More than any section of the profession, that composed of our men who entered the Army, in the earliest days of our recent history, have contributed towards the elevation of the profession in social esteem. For many years after that beginning, a century and a half ago, it was the custom for a veterinary graduate to become attached throughout his career to a particular regiment, and this custom became generally abolished only just over half a century ago, with the formation of the Army Veterinary Corps. The Life Guards, however, who formed an exclusive regimental category, in most intimate association with the Sovereign and Court, retained the former custom, and it was a mark of the highest possible social qualifications to become attached to one of the Life Guard Regiments. That we should always have had the men who could occupy with honour and dignity such positions redounds to the credit of the profession. That they should be men, too, who, within their own profession, continued to "walk humbly among men" gives cause, at this moment of grief for our departed friend, for much gratification.

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## Duncan S. Campbell, M.R.C.V.S.

### An Appreciation

His many friends in the Animal Health Division of the Ministry of Agriculture and Fisheries and throughout the profession will learn with deep regret of the death of Duncan Campbell which occurred in most tragic circumstances at Biarritz where he was spending his honeymoon.

It appears that Mr. and Mrs. Campbell whilst taking a stroll, passed near to one of the coastal fortifications, which, unknown to them, was being demolished, and following an explosion Campbell sustained serious injuries from which he has since died. A more tragic ending to a honeymoon cannot be imagined.

Duncan Campbell was a native of Greenock, and after qualifying at the Glasgow Veterinary College in 1937, spent several years in general practice. He joined the veterinary staff of the Animal Health Division in 1940, and very quickly won the esteem of his colleagues. He was a particularly good type of Scot; whilst possessing a good degree of self-confidence, he had a charming manner which made him a most agreeable colleague, and he was very well liked by everyone with whom he came in contact. He combined extreme efficiency with absolute loyalty, was always sure of himself, and I can think of no more desirable companion in a tight corner than Duncan Campbell.

He was married on April 20th last at Chester to Sheila Capner. Those of us who attended this delightful function, little realised that his happy marriage would end so tragically. Our very deep sympathy goes out to his charming young wife in the grievous loss she has sustained; we can only hope that it may be of some small consolation to know that her sorrow is shared by those of us who enjoyed his friendship.

E. R. C.

### Northern Ireland Tributes to H. D. Gilmore and A. McFarlane

At the meeting of the North of Ireland Veterinary Medical Association held on May 4th, Dr. Lamont paid the following tribute to two of the most loyal members of the Division, who had died since the last meeting—Mr. H. D. Gilmore (March 3rd) and Mr. A. McFarlane (February 26th):—

I feel we cannot let this occasion pass without making reference to the passing of two of our colleagues, Hugh Gilmore and Alec McFarlane.

Hugh Gilmore was a member of this association for over 40 years and it was his proud boast that in all that time he had never missed a meeting.

He was a distinguished and able practitioner, but he will be remembered here chiefly for his oratory and wit. He had that genius of saying the right thing at the right time, and his sayings relieved many a difficult situation. He was a loved and honoured member, but he was known to a much wider field through the medium of the annual Congress where he was a familiar figure surrounded by friends eager to hear the latest Gilmorian flash of humour. I am told he was in much demand as a speaker at the Alumnus dinner of the "Dick" College: we can appreciate that.

Our Association is the poorer by the passing of this fine man and we shall miss his wisdom and counsel.

Alec McFarlane went through college with me and a number of other members of this Association. We liked him at college, he was a grand chap, straight as a die. In disposition he was very shy and it was a real effort for him to speak in public. He was, however, a first class committee man. He was selected for the Presidency of this Association, but his natural shyness prevented him from filling this high office.

Those of us who helped to draw up the evidence for the Babington Commission appreciated his wisdom and independence of outlook and in particular we admired his sterling honesty. As a practitioner he had few equals and the profession in Northern Ireland has lost two stalwart members in the passing, so suddenly and tragically, of these two members.

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It is regretted that our account of the funeral of Major G. E. Oxspring, O.B.E., F.R.C.V.S., omitted mention of the fact that Major Duncan Macdonald, O.B.E., represented the R.A.V.C. and laid a wreath on behalf of the Corps.

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We also are informed that our reference to the practice in Orford Place, Norwich, having been founded by Mr. H. P. Standley Senr. is incorrect, inasmuch as at the time Mr. Standley was at Wymondham in partnership with his uncle Mr. Auger, the Orford Road, Norwich, practice was in the hands of Mr. Pollock.

* * * * *

### R.C.V.S. Animal Management Examination

List of Successful Candidates

London:

Ayliffe, J. H.
Barley, A. P.
Barnsley, D. G. C.
Bennett, P. H. G. (Credit)
Bouvet, R.
Brunsdon, J. R.
Choudary, M. U. A.
Clark, J. H.
Clarke-Williams, P. R.
Cochrane-Dyet, I.G.C.
Dent, H. H.
Dickens, P. S. E. M.
Epps, H. B. G.
Forshaw, P. H.
French, P. J.
Garland, Miss Mary
Garry, Peter
Goodsell, P. R.
Haggis, I. H.
Harrop, J. K.
Hay, I. F. S.
Hoddinott, R.
Howe, W. T.
Hoy, R. J.
Humphreys, M. J.
Jack, J. A. G. (Credit)
Jones, W. G.
Keymer, I. F.
Laing, P. W.
Lloyd, E. R. O.
Monks, R. W. M. (Credit)
Moore, D. W. W.
Napier, Miss E. W.
Needham, N. S.
Norman, J. A.
Orfeur, N. B.
Payne, J. M.
Perryman, Miss P. J.
Redmond, M. R.
Rees, R. B.
Robinson, J. S.
Sherwood, J. E. T.
Shipley, William
Skinner, D. J.
Stephens, J. M.
Swift, G. A.
Taylor, A. D.
Thuraisingham, S.
Tucker, Miss J. W.
Walter, W. H. (Credit)
Wheeler, J. M.
Whitaker, G. L.
Wilkinson, J. S.
Wiltshire, L. V.
Wood, K. H. B. (Credit)
Wynne, R. J.

Liverpool:

Ditchburn, D. M. L.
Hudson, J. H.
Johnson, R. H.
Leighton, G. R.
Steele, C.
Vaughan, K. L.

*(To be continued)*

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### S.19 VACCINE

Continuing the correspondence on the above subject which has appeared in recent issues of *The Farmer and Stockbreeder*, and some items of which have been reproduced in our columns, Mr. J. W. Bruford, M.R.C.V.S., of Sevenoaks, President-elect of the N.V.M.A., writes:

It is not unnatural perhaps that any live stock owner confronted with the problem and disappointment of herd infertility should look for some scapegoat; but it is, however, abundantly clear that to blame S.19 is unjustifiable.

In this country, the U.S.A., and New Zealand, controlled research taking into consideration a large number of herds, has demonstrated in each case that S.19 does not reduce fertility in cows and heifers; furthermore, extensive field experience supports these conclusions.

It would be tragic, therefore, if the recent publicity given to individual instances of herd infertility which happen to be coincidental with the use of S.19 should limit the widespread use in this country of this valuable product. If anybody should doubt the value of freedom from contagious abortion let him once encounter an abortion storm in an unprotected herd. He will quickly realise the loss associated with premature parturition, loss of calves and milk, the subsequent infertility and complete upset of any breeding programme.

Herd infertility is an immense and difficult problem which existed long before the advent of S.19; and the National Veterinary Medical Association is constantly pressing for and encouraging more research into the nutritional and parasitological aspect of infertility together with research into the variation and fluctuations of bull fertility.

In the meantime, coupled with the use of S.19 vaccine, care in feeding, a close check on the conception rate of the bull by the keeping of good records and the use of pregnancy diagnosis, together with the maintenance of a disease-free herd, will do much to reduce the incidence of infertility.

* * * * *

### Attested Herds Scheme for Northern Ireland

The Northern Ireland Ministry of Agriculture, in its new Tuberculosis (Attested Herds) Scheme, operative as from May 2nd, offers as inducements to farmers to participate, a bonus of 30s. per animal, increased feeding-stuffs rations, and the possibility of priority in artificial insemination services. A recent Ministry statement says that in Northern Ireland the incidence of tuberculosis in cattle is high and justifies the most vigorous efforts on the part of livestock owners to combat it. The scheme is designed to encourage the establishment in Northern Ireland of herds of cattle officially certified as free from tuberculosis.

The method of eradication which forms the basis of the scheme consists of the application of the tuberculin test at intervals, the disposal of reactors and the disinfection of premises occupied by them.

The preliminary tuberculin test must be carried out by the herd owner's veterinary surgeon, but when the incidence of disease in the herd has been reduced to 10 per cent. or less, subsequent tests will be carried out free of charge by the Ministry's veterinary inspectors.

When two consecutive tests of the herd have revealed no reactors a certificate of attestation will be issued, and the herd will be entered in the register of attested herds. The owner will then qualify for a bonus of 30s. per annum in respect of each animal in the herd. This bonus is payable for a period of three years so long as the herd remains free of tuberculosis. Tests will be carried out periodically to ensure that the herd remains free of the disease. In addition, increased feeding-stuffs rations, and, it is hoped, priority in artificial insemination services will be made available to attested herds.

Attested herds must be isolated from all other cattle, and the management of the herd and conditions under which it is kept must be suitable for the observance of the rules laid down. These rules are designed to safeguard the herd against re-infection from outside sources.

In particular, no cattle may be brought on to premises without a permit. An animal from another attested herd moved direct, or through a market authorised for the sale of attested cattle, moved direct, or through a market authorised for the sale of

attested cattle, may normally be added to the herd at once, but in all other cases the animal must be isolated and a tuberculin test carried out not less than 60 days later. On the other hand, no restriction will apply to the removal of animals from an attested farm, provided such animals are not subsequently brought back into the herd again.

* * * * *

## M.M.B. Panel of Honorary Consultants on Cattle Improvement

As intimated briefly in our last issue, in order to have at its disposal the best scientific advice on cattle improvement, the Milk Marketing Board has formed a Panel of Honorary Consultants. Fourteen scientists in six different countries, who have international reputations for the work they have done on the breeding, feeding and management of cattle, have agreed to give their services. The work of the Panel will be co-ordinated by Mr. Joseph Edwards, Scientific Adviser to the Board.

The Board has an increasingly important responsibility in the field of production. It controls the National Milk Records movement (which has more than 20,000 members) and is developing a large share of the national artificial insemination movement. In the past four years it has built 20 cattle breeding centres, which contain more than 300 pedigree sires—the largest stud of high-class dairy bulls in the world. These centres provide an A.I. service for 35,000 producers and in the past year the number of cows inseminated was more than 250,000.

In these and other fields of milk production the Board receives advice from many county committees of breeders and dairy farmers who give their time to the Board's work. The Panel has been created to add the best possible scientific advice to the practical advice and to make it available, through the Board, to every producer, large or small, in the country. Contributions to modern dairying have been made in the United States, Denmark, Sweden and New Zealand and it is from these countries that members of the Panel have been chosen. There is also a group of British research workers.

The Panel will work in the following ways:—

1. Members of the Panel will correspond with the Board on work being done in their countries which has a bearing on the Board's production work.

2. The Board may submit a plan of a new development to members of the Panel for an expert opinion.

3. The Board may, from time to time, invite one or two members of the Panel to come to this country to study its production enterprises and to hold discussions with the Board in full session.

In addition, the Board will, as now, continue to send small groups to countries overseas to see new work in progress and, in doing this, contact with members of the Panel will be maintained.

In the recent past there has been mention of the Anglo-American consultant groups in industry stimulated by Governments. The Board believes its international Panel to be the first of its kind, conceived by a farmers' organisation and designed to help to make a British dairying industry second to none.

Thus the fruits of world-wide research will be made available to the Board's producers and efficient dairy farming will provide the consumer with still better and richer milk.

The following have agreed to serve on the Board's Panel of Honorary Consultants on Cattle Improvement:—

U.S.A.

*Professor W. E. Petersen.* Professor Petersen is Professor of Dairy Husbandry at the University of Minnesota. In addition to being an authority on the effect of management (environment) factors on milk production (quick milking, etc.), he is now developing a research unit on the recovery of cow-eggs from the living cow which may one day be an important corollary to A.I.

*Mr. M. H. Fohrman.* Mr. Fohrman is Head of the Division of Dairy Cattle Breeding, Feeding and Management of the U.S. Department of Agriculture: he is an authority on the use of progeny-tested sires and planned cross-breeding.

*Professor J. L. Lush.* Professor Lush is Professor of Animal Breeding at the University of Iowa. He has made intensive studies on animal breeding systems (in-breeding, line-breeding, etc.), and is the author of the standard genetic text-book, "Animal Breeding Plans."

*Dr. G. W. Salisbury.* Dr. Salisbury is Professor of Dairy Husbandry at the University of Illinois. He is there building up a new A.I. research unit to carry on the pioneer work which he did at Cornell University on dilution rates, methods of storage, use of sulphanilamide in semen, etc.

CANADA

*Mr. J. A. Henderson.* Mr. Henderson (who was at the Board in 1945) continues to take a veterinary interest in A.I. and is Secretary of the Canadian Government's Advisory Committee on the subject.

DENMARK

*Dr. H. W. Eskedal.* Dr. Eskedal is in charge of Dairy Husbandry research in Denmark and in addition advises Danish recording and A.I. authorities.

*Dr. V. Steensberg.* Dr. Steensberg is recognised as an authority on the feeding of dairy cattle in Denmark and (says the Board) our particular interest lies in his control of the Danish progeny-testing stations for A.I. sires.

*Dr. E. Blom.* Dr. Blom is a Danish State veterinary surgeon who has done excellent work on tests for fertility in bulls and is in charge of a laboratory in which all A.I. bulls of doubtful fertility are examined.

SWEDEN

*Professor I. Johansson.* Professor Johansson is Head of the Department of Dairy Husbandry at the University of Uppsala in Sweden and is well-known in Europe and the United States for his work on milk records and breeding and environmental factors that influence them.

NEW ZEALAND

*Mr. A. Ward.* Mr. Ward is Director of Herd Improvement to the New Zealand Dairy Board. He has pioneered in the field of the use of records for breeding (the New Zealand Sire Survey Book) and is supervising Board A.I. developments.

*Dr. C. P. McMeekan.* Dr. McMeekan is Director of the Ruakura Animal Research Institute. He has a programme of research on dairy cattle (with a very large number of identical twins) which is outstanding. He spent three years at Cambridge and knows England well.

GREAT BRITAIN

*Dr. John Hammond, F.R.S.* No living person has a better background of fundamental knowledge on all cattle improvement matters. In past years he has added greatly to the reputation of the Cambridge school of studies on fertility and reproduction, and is to devote the next few years to a special study of the egg-implant problem. He is author of the standard text-books, "Reproduction in the Cow" and "Farm Animals."

*Dr. H. Donald.* Dr. Donald (a New Zealander) is a senior member of the National Animal Breeding Organisation. Before joining it he was a member of the staff of the Edinburgh University Animal Genetics Institute.

*Dr. J. E. Nichols.* Dr. Nichols is Professor of Animal Breeding at the University of Wales (Aberystwyth). He takes a keen interest in all our work and is already making studies on livestock improvement (through A.I.) in the Welshpool area. He is author of the widely read book, "Improvement of Livestock."

* * * * *

## The British Horse Society

Major J. G. Morrison, M.P. (President) presided over a well represented meeting of the Council of the British Horse Society, and referred to the fact that H.R.H. Princess Elizabeth had honoured the Society by presenting a challenge Cup at the White City Show for the Ladies' International Jumping Championship.

He then reported that Mr. R. B. Charlton had been elected as the representative of the Fell Pony Society on the Council and reported the resignation of Major Faudel Phillips as Vice-Chairman of the Society.

This news was received with great regret by the Council and the Chairman (Colonel the Hon. C. Guy Cubitt) referred to the wholehearted support that he had received from Major Faudel Phillips during his period of office. Nobody could have supported him more loyally, they had worked together most amicably and their weekly conferences together had proved a great success. He regretted very much that Major Faudel Phillips was moving in the autumn to the West country, and as he would not be able to devote so much time to the work of the Society felt that somebody else should occupy his place among the officers of the Society. The Council expressed their appreciation of the work and services of Major Faudel Phillips, and their regret at his decision. Colonel Arthur Main was then elected as Deputy Chairman of the Society.

*Pony Club.*—Courses for Pony Club Instructors had been arranged for May, June, November and December, and the Rules and Administrative Notes had recently been revised and re-printed. The Rules of the new Inter Branch Competition were now available and also a new leaflet "Running a Pony Club Branch."

*Dressage.*—The new book on the rules of dressage was being prepared, and would be available shortly.

*Examinations for Riding School Instructors.*—Many examinations had been held under the revised syllabus, and the results to date were:—

| | Candidates | Passed |
|---|---|---|
| Preliminary Instructors | 283 | 196 |
| Instructors (B.H.S.I.) | 8 | 2 |
| Horse Knowledge and Riding Certificates | 91 | 91 |

As to the Diplomas it was unanimously agreed that the Diplomas should be awarded as follows:—

Diplomas. Persons in possession of their B.H.S.I. Certificates may be awarded the Diplomas if, in the opinion of the Committee, they have had seven years' practical experience in the running of satisfactory riding establishments.

Honorary Diplomas. These may be awarded to persons not in possession of the B.H.S.I. Certificate but who have rendered invaluable service to the horse world by their instruction in equitation and horsemastership.

*Horse Breeding Act.*—Capt. Beckett referred to the fact that under the new Horse Breeding Act, stallions were to be passed for conformation by the Ministry's Animal Livestock Husbandry Officers. Previously they had been inspected by nominated veterinary surgeons, and the change was probably due to the views expressed by breed societies that animals should only be rejected for conformation by experts on the breeds concerned.

Correspondence was also considered from the National Veterinary Medical Association and it was resolved that this Society would support this Association in any negotiations that they had with the Ministry of Agriculture on this matter.

*Licensing of Stallions.*—The Clydesdale Horse Society reported that they had received numerous complaints and criticisms in

respect of the licensing of two-year-old colts under the Horse Breeding Act. Many colts which would normally be kept entire for another year with a view to seeing if they maintained their early promise are being castrated. They urge that the Horse Breeding Act should be amended so that colts are not examined for a licence until they have attained the age of three years. It was resolved that the President should see the Minister of Agriculture on this matter.

*Shetlands on Dartmoor.*—Considerable correspondence has taken place between the Dartmoor Pony Society, the National Pony Society and this Society regarding the fact that under the new Horse Breeding Act Shetland stallions need not be licensed.

When the regulations were drafted no objection was offered to this exemption, as the fact that many poor type Shetland stallions are now roaming Dartmoor was overlooked. Dartmoor mares are, however, being covered by these roaming stallions, and it is strongly felt that all Shetland stallions should be licensed outside their own breeding area.

Several members of the Council supported the views of the Dartmoor Pony Society, and it was decided that a member of the Council should be appointed by the President to go into the whole matter, and if possible see the Ministry of Agriculture with a representative of the National Pony Society and Dartmoor Pony Society.

*Heavy Horses.*—Mr. Cumber reported that the Society was organising meetings between representatives of the heavy horse societies and the Ministry of Agriculture so that they could discuss the present shortage of heavy horses and methods of overcoming this difficulty, and also encouraging farmers to use horses on the farms. He was pleased to state that the Racecourse Betting Control Board would be allocating £2,000 this year for the encouragement of interest in heavy horses, and this money would be administered by the Society in conjunction with the National Federation of Young Farmers' Clubs and the Ministry. As the next meeting was to be held on May 11th he hoped to be able to give fuller details then.

A vote of thanks to Mr. Cumber for his efforts in this matter was proposed by the President and adopted.

*International Affairs Sub-committee.*—Colonel Cubitt proposed that the International Affairs Sub-committee should be re-appointed. This was agreed to, the Committee to consist of a Chairman appointed by the British Horse Society, two nominees from the Society and two from the British Show Jumping Association. The Committee was given power to act and also to invite others to any meeting if the subject under discussion concerned any particular breed or type of horse.

## CORRESPONDENCE

***The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.***

**Correspondents are requested to write as briefly as possible.**

### AN R.C.V.S. COUNCIL RESIGNATION

Sir,—All the world be fools, 'cept me and thee—and thee be queer at times. Thus would Harry Steele-Bodger view his confrères on the Council R.C.V.S.

I would, however, say in all seriousness that the innuendoes against the President and members of Council in respect of the use of the title "Veterinary Practitioner" in the Veterinary Surgeons Act, 1948, are most unworthy of him. The truth is, and nobody knows it better than Mr. Steele-Bodger, that Parliament was determined to use the title in this manner with the full knowledge that the whole profession was against it, but also well knowing that they had a strong precedent for their action.

In the second matter raised by him, the two cases in question were examined most carefully in Registration Committee and therefore, since these matters were discussed in committee, they should not be broadcast. It is notoriously bad practice and most unfair to abstract facts or figures from their context in order to bolster up an argument. But our friend has done this in such a way as to suggest that many of his associates on the Council are bereft of any moral conscience or judgment. In taking such a line he should have been particularly careful to be at least accurate in his facts. Instead we find him stating "This man convicted by a civil court for receiving money under false pretences, etc." This is an incorrect statement* and it seems quite obvious that he did not pay that same degree of attention to the details and facts of the case that was shown by those very members of Council whom he now condemns.

The composition of the Council is made up of a good cross-section of the veterinary community as a whole. The cases that come up before the Registration Committee are considered most earnestly and in great detail. In cases of proved misdemeanour the final responsibility as to the degree of punishment rests on this judicial body of the profession and before the extreme punishment of exclusion from the profession is applied, that judicial body must be certain beyond all reasonable doubt that it is, in all the circumstances of *that* case, the right and just course to adopt. If there is any doubt at all, then the accused must be given the benefit of it. The profession must trust those whom they elect, to do their best in these matters to uphold the dignity of our calling, but with absolute justice at all times to the individual.

Yours faithfully,

Sevenoaks. L. P. Pugh.
*May 3rd*, 1949.

[* The exact wording relating to the nature of the charge has been obtained from the Registrar of the Royal College and is as follows: ". . . charged with conduct disgraceful in a professional respect in that you were at —— on —— convicted of the following offence: 'On —— at —— did unlawfully by a certain false pretence attempt to obtain from the Ministry of Agriculture and Fisheries the sum of —— by pretending that you had carried out herd inspection on certain premises'."—Editor.]

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### PERSONNEL OF THE PROFESSION

Sir,—I wonder whether Miss Ford, and others, realise that the prerequisite to the state of affairs which she advocates—full control and treatment of, and full research into, every animal disease—is simply the totalitarian State, coupled with a further depression in the standard of living.

Yours faithfully,

37, Hawthorn Lane, J. Tweedale Edwards.
Wilmslow,
Cheshire.
*May 3rd*, 1949.

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### VETERINARY COLLEGE LECTURERS (PAY)

Sir,—With reference to the question by Sir William Y. Darling and the answer of the Secretary of State for Scotland on the subject of the salaries of lecturers in the Royal Veterinary College, London, and the Royal (Dick) Veterinary College, Edinburgh, reported in the Parliamentary News column of the issue of the *Record* of April 23rd, 1949, may I be permitted to make the following comments on behalf of the lecturers of the Royal (Dick) Veterinary College?

Firstly, while it is true that the two salary scales are similar, the point at which many lecturers of the Royal (Dick) Veterinary College entered the scale on its introduction two years ago was at a much lower level than that granted their counterparts in the London College, so that marked disparity exists between the salaries of experienced teachers in the two colleges.

Secondly, the answer received does not make mention of the fact that in the London College there is a Reader's grade to which Senior Lecturers may aspire, the salary of which rises to a maximum of £1,200, and which does not exist in the Edinburgh College.

Yours faithfully,

Department of Bacteriology, J. S. Garside.
Royal (Dick) Veterinary College,
Edinburgh, 9.
*May 2nd*, 1949.

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### HORSES ON LOAN

Sir,—Your readers will have seen the announcements in the Press concerning the League's efforts to buy young horses and loan them to farmers and others who are willing to give them a good home and guarantee to return them to the League.

I should be grateful to learn if any veterinary surgeons would care to assist the League in this way, either by "vetting" the homes or keeping an eye on the animals after they have been placed.

It would be of great help to my Society to have this professional assistance.

Yours faithfully,

Our Dumb Friends' League, E. Keith Robinson,
Grosvenor Gardens House,
Victoria,
London, S.W.1
*May 2nd*, 1949.